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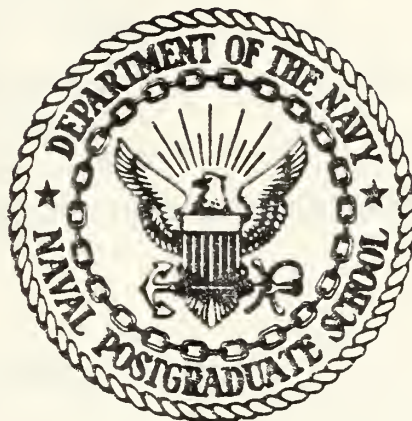
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THESIS

OPERATIONAL EA-6B MISSION
PLANNING PROGRAMS

by

Stephen Wayne Smith

March 1979

Thesis Advisor:

Prof H. A. Titus

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T187814

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Operational EA-6B Mission Planning Programs		5. TYPE OF REPORT & PERIOD COVERED Master's Thesis; March 1979
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Stephen Wayne Smith		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Postgraduate School Monterey, California 93940		12. REPORT DATE March 1979
		13. NUMBER OF PAGES 98
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) EA-6B Mission Planning Electronic Warfare NEEO, WANG		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Since World War II, the electronic warfare officer has been planning his mission by hand. The threat today is too large and complex for hand planning. The Operational EA-6B Mission Planning Program is designed to automate much of the clerical work involved in planning electronic warfare missions. It is an interactive computer program utilizing the WANG 2200T installed on all U.S. aircraft carriers. The program consists of eight subprograms linked together through an interactive main program. This design		

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OPERATIONAL EA6B MISSION PLANNING PROGRAMS

by

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Lieutenant, United States Navy
B.S., University of South Florida, 1970

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN SYSTEMS TECHNOLOGY

from the

NAVAL POSTGRADUATE SCHOOL
March 1979

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ABSTRACT

Since World War II, the electronic warfare officer has been planning his missions by hand. The threat today is too large and complex for hand planning. The Operational EA6B Mission Planning Program is designed to automate much of the clerical work involved in planning electronic warfare missions. It is an interactive computer program utilizing the WANG 2200T installed on all U.S. aircraft carriers. The program consists of eight subprograms linked together through an interactive main program. This design concept allows for easy access to each program. In addition, future programs may be added without difficulty. Since each program is a separate entity, one may be changed or deleted without affecting the others.

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I. INTRODUCTION

The United States intelligence community has been collecting electromagnetic signals for many years. The U.S. Navy has been involved in countering those signals considered threats since World War II. This countering has taken on many shapes and forms-from exploitation to sensor denial through active countermeasures.

The U.S. Navy's first active airborne jamming platform was the EA-1, followed by the EKA-3. Neither aircraft were initially designed to perform electronic warfare missions. The newest and most sophisticated naval tactical airborne jamming aircraft is the EA-6B.

Previously the Electronic Warfare Officer (EWO) planned his electronic warfare missions by hand. Today, the EA-6B EWO must also plan his missions by hand against an Electronic Order of Battle (EOB) consisting of approximately: [1]

1. 14,000 known land sites with a total of 62,000 emitters;
2. 1,200 types of commercial and combatant aircraft and missile systems;
3. 28,000 commercial and combatant surface ships;
4. 1,100 submarines; and
5. 350 different missile systems.

Against an EOB at this magnitude, it is a formidable task for an EWO to plan an effective electronic warfare mission in a timely manner.

The initial stages of planning an electronic warfare mission are quite time consuming. It consists of gathering numerous publications such as the kilting lists, Radar Order of Battle, Radar Handbook, Tacmanuals, etc. The planner must then sort through them to retrieve the required information(e.g. site location, emitter parameters, etc.) before the actual strike planning can begin. Once the charts depicting the EOB, radar and weapon envelopes, and aircraft route of flight have been completed, the scenario may then be subjectively analyzed and jammer positions optimized. Some noise jamming effectiveness calculations may be performed. However, as a general rule they are not since they are very time consuming and cumbersome. Also, the results are not accurate for the newer modulations available to the EWO.

As the threat library increases so do the EWO's problems. By automating the majority of the "bookkeeping", the EWO will have more time available to subjectively analyze the scenario.

II. BACKGROUND

Research at the Naval Postgraduate School in computer aided electronic warfare mission planning was initially completed in June 1977 by Beaudet [2] and Watts [3]. They were followed in March 1978 by Odell [4]. The resulting papers dealt with a particular section or facet of the mission planning process.

Watts [3] dealt with the problem of determining an optimum route for the jamming aircraft. For his computer simulation, a modified escort mission profile was used. This type of profile permits the jamming aircraft to accompany the strike group only in those areas where the exposure to enemy threat is set to an EWO determined maximum level.

The optimum route is determined by starting at the point where the strike group's exposure to is the greatest. For this position and time, an optimum jammer position is computed. The program then computes the route in positive and negative time from the previous optimum point. In theory, this is the optimum route. In actuality, the simulation calculates several optimum routes, each with its own measure of effectiveness. All of these possible routes are presented to the operator who makes the final selection.

Beaudet developed computer software that automated many of the initial processes involved in electronic warfare mission planning. A series of operator-computer interfaces were

utilized to keep the planner integrally involved in the planning process. This eliminated a substantial portion of the mission planning drudgery.

Beaudet's program was designed to accomplish the following:

1. Plot a strike force route-of-flight based on operator entered turn point coordinates;
2. Produce a complete electronic order of battle (EOB) printout of the area of interest.
3. Visually present emitter detection envelopes and flight paths based on steps 1 and 2.
4. Compute and provide to the mission planner, a complete navigation solution and threat emitter reaction information for the strike.

This simulation was accomplished on an IBM 360/67 general purpose computer with an interactive graphics display terminal. The 800 step program was written in FORTRAN IV and required 10,000 words of memory.

Beaudet proved automation of EA-6B mission planning is feasible. Odell attempted to make it practical. His research revealed that with the exception of the WANG 2200T, most computer systems on board today's aircraft carriers were either inaccessible to EA-6B aircrews or were so overworked that usage would be impractical.

Odell's design objectives were to automate as much of the mission planning process as possible and to optimize the jamming route selection criteria.

He planned to accomplish the first objective by converting

Beaudet's program from FORTRAN to WANG Basic. However, after conversion, the program was too large for the WANG's internal memory. It was subdivided into three modules. Each module was loaded into memory from a floppy disk as required.

His second objective was achieved by a simple optimization scheme based on the presence of a jamming aircraft in the threat radar beam width, distance from the threat radar, strike group position, and possible EA-6B positions. This scheme may not produce the definitive optimum route for all situations involving all types of jamming. However, it does present the operator with another possible route from which to select his route of flight.

The proposed source for Beaudet's and Odell's electronic order of battle was the NIPS computer located in the carrier's intelligence center. From this data base, all of the required information for supporting the program would be obtained via an interface with the WANG. This critical interface is not and will not be available in the foreseeable future.

III. DESIGN CONSIDERATIONS

The primary objective of this project was to design and **deploy** an EA-6B computerized mission planning program utilizing Beaudet's and Odell's concepts. This had to be accomplished using the existing assets currently on board U.S. aircraft carriers. An IOC (Initial Operational Capability) of September 1978 was scheduled. This coincided with TACELRON (Tactical Electronic Warfare Squadron) 132's West Pac deployment. The critical factor was the availability of a suitable data base. The carrier's NIPS (Naval Information Processing System) computer, located in CVIC (Carrier's Intelligence Center), does not allow for direct access from other computers. The interface hardware and software between the WANG 2200T and NIPS is currently under development. It will not become available for approximately three years.

The various naval and national intelligence sources were contacted. All could supply a data base but not on the floppy disk required by the WANG. Fortunately, the Naval Electronic Engineering Office (NEEO) in Damneck, Virginia, could supply the required data base in the desired format and on the WANG floppy disk. This support could be provided on a continuing bases and at a reasonable cost.

Efficient data base management prohibited coupling a data base stored on a floppy disk to Odell's program. Therefore new programs were written using the same goals and ideas. In

addition the programs were to meet the following additional criteria:

1. They had to be simple to operate. Operator training time had to be kept to a minimum.
2. The resultant product had to be flexible and easily changed to meet the changing needs of the EA-6B squadrons.

It was decided at the onset that if at all possible, an operational program would be made available to the EA-6B squadrons prior to 1 October 1978. The driving force behind this was to get something into the fleet and get their feedback for future development. Because of the short time available, the interactive graphics display capabilities would have to be added at a later date.

IV. SYSTEM DESCRIPTION

A. INTRODUCTION

The Operational EA-6B Mission Planning Programs use the WANG 2200T computer system currently installed on board the U.S. aircraft carriers. As a minimum, the system must have a CRT, 16k of CPU memory, line printer, and a dual floppy disk drive unit. A triple disk drive unit is preferable.

Currently, in this developmental package there are eight programs available to the mission planner. Each program is a separate entity unto itself. They are all tied together through a ninth program called the START module.

The START module limits the number of commands required to operate all the program to one. It provides for easy transition from one program to another. In addition it provides for adding future programs that may be developed without changing the software of the existing programs.

The seven operational programs available at this time are entitled: LAND, MOBILE, PLATFORM, MATCH, LIST, EXCAB EA6B MANAGEMENT, ICAP EA6B LIST MANAGEMENT, HULTEC and PRINT. Each program will be discussed in further detail.

The heart of the programs is the WANG KFAM-3 (Key File Access Method) data management system. [5] KFAM maintains an index of each individual record in the data base and its location in memory. This is accomplished by associating a unique key to each data record.

The data base used in the mission planning programs is divided into three separate units. They are: the land electronic order of battle, mobile platform electronic order of battle, and the emitter parameter listing (EPL).

The mobile platform EOB data file has one associated key file while the EPL has three. All key files (except for one of the EPL's), are located on the same floppy with its associated data file. The land EOB data file does not have a key file.

The keys make it possible to access the data files and display to the operator the desired information in a timely manner. An EPL key file may contain an emitter's NATO designator, or its NATO nickname; while a mobile platform's key file may consist of the platform's name.

As stated above, the land EOB data base does not have an associated key file. KFAM is not used in conjunction with this data base. This will be explained in more detail in the next section.

The operator/computer integrity that is so important in any automated system is maintained throughout the operation of each program. The operator is required to supply pertinent information at various points during the execution of each program.

B. DATA FILES

The data base support for these programs is provided by NEEQ, Damneck, Virginia. [1] They receive the periodic intelligence updates produced by the various national

intelligence agencies (NSA, DIA, etc.). They update their own data base which is a compilation of all the sources' data bases. Then an updated data base is supplied to the EA-6B squadrons utilizing the mission planning programs. Each data base is tailored for the squadron's operating area. Upon receipt of new data disks, the squadrons return the old disks to NEEO for reuse.

The data base consists of a land EOB, mobile EOB, and EPL. The EPL contains both commercial and military emitters within the frequency limits of the EA-6B. This restriction was necessary because of the limited storage on the floppy disk.

NEEO will tailor the data base to meet a squadron's operational requirements. The squadron must inform NEEO of any needed changes prior to the first of each month. The tailoring may include such items as adding or deleting certain platforms or emitters. However, the tailoring may be restricted by the available disk space remaining on a floppy. For example, the maximum number of emitters and the associated signals are currently limited to two thousand eight hundred. This number may increase in the future to four thousand.

Each emitter contained in the EPL requires at least two sixty four byte records on the disk. The first record contains the following information in the format shown.

<u>Column Nos</u>	<u>Contents</u>
1-5	Elint Notation
8	Mode Counter (MC)
10-21	NATO Nickname
23-24	Emitter Function Code (FC)
27-30	Four Digit NTDS Number
38-61	Comments

The second and subsequent records contain the signal parameter information in the following format.

<u>Column Nos</u>	<u>Contents</u>
1-5	Elint Notation
6	End Mode (- indicates last mode)
7-8	Mode Counter (MC)
10-14	RF Low
16-20	RF High
22-26	PRF Low
28-32	PRF High
34-37	Pulse Width Low
39-42	Pulse Width High
44	Modulation Type
47-51	Scan Type
53-56	Scan Period Lower Limit
58-61	Scan Period Upper Limit

Standard DIA codes are used for the emitter's function code, modulation type and scan type.

The mode counter is used to distinguish each signal. The record containing the emitter's NATO nickname always has an MC of zero. MC increases by one for each subsequent signal or mode. The last mode is distinguished by a negative sign in column six.

The modes listed for each emitter may differ by only one parameter. This increases the size of the EPL but it provides the mission planner with each known signal rather than a range of parameters for an emitter.

The comments section contain information pertinent to that emitter. This may include associated emitters, platforms, or weapons. Recommended jamming modulations will be added at a later date. This must be done at NEE0. Otherwise the squadron would need to reenter the information each time a new EPL is received.

The Land EOB data file contains a listing of the known radar sites within the geographical boundaries of that file. Each site requires one sixty four byte record of the format shown below. If a site contains more than eight emitters, a second sixty four byte record will be used.

<u>Column Nos</u>	<u>Contents</u>
1	Category (L for Land)
2-16	Site latitude & longitude
17-18	Country Code
21-60	Elint notations of site's emitters
61-62	Site Function Code

The Mobile EOB data file contains a listing of the known emitters on board each mobile platform contained in the library. The mobile file format is the same as that shown for the Land EOB except for two changes. The category code for a mobile platform is M, A, S, or B. The platform's class name is contained in columns two through sixteen.

C. PROGRAMS

1. As discussed earlier, the START module limits the number of commands the operator is required to know for operating with these programs to one. Through this module, the operator gains access to each of the seven remaining programs. Any programs developed and added at a later date may be accessed through this module.

After the START module is loaded and running, a menu of the available programs is presented on the screen. The operator selects the program he wants and enters its number into the computer. That program is loaded into memory. Each

program will display its function on the CRT after it is loaded. This is to ensure the operator has selected the correct program.

When a program is finished, the operator will be presented with three options. One of the choices is to return to the START module to select another program. This feature allows the operator to continue through as many programs as necessary without his reloading the START module.

2. The LAND program allows the operator to input the latitude and longitude of two geographical points and obtain the EOB for the enclosed rectangular area.

A typical output would appear as follows:

```
SITE #1 of 6
LAT 345119N
LONG 1234700W
FC MC
CC US
ELINT MC FC EMITTER NAME      COMMENTS
A123A 0  TT UNCLE AL'S        LOCATED NEXT TO JOE'S
A245Z 0  EW LONG GIRL
```

The operator decides if the output is to be listed on the CRT or on the line printer. He also decides if the signal parameters associated with each emitter are to be included in the listing.

3. The MOBILE PLATFORM program provides a listing of a selected platform's EOB. The platform may be an aircraft, surface ship, submarine, or missile. Both commercial and combatant platforms are included in the data base. The operator inputs the platform's name and country code. The resultant listing may appear as shown below. The emitter parameter may be included in the listing. The output may be

printed on the CRT or line printer.

Name	OHIO		
CC	US		
FC	CV		
ELINT	MC	FC	EMITTER'S NAME COMMENTS
Al23Z	0	EW	PLANT
B246D	0	SS	SPS-10

4. The LIST program provides the mission planner with a listing of an emitter's signals. Either the emitter's elint notation or its NATO nickname is entered into the computer. A typical listing would appear as follows:

ELINT	MC	FC	EMITTER'S NAME		COMMENT
Al23Z	0	EW	PLANT		
ELINT	MC	RFLO	RFHI	PRFLO	PRFHI PWLO PWHI MOD SLO SHI STYPE
Al23Z	1	200	300	200	300 2 3 A 2 3 F
Al23Z	-2	400	450	200	300 2 3 A 2 3 F

The listing is first presented on the CRT then on paper if a hard copy is desired.

When a match cannot be made, the operator is so informed. He is asked to check his input. If it is correct, then that emitter is not located in the data base.

5. The EA-6B squadron's Electronic Warfare Officer is responsible for the management of the alarm and CCI assignment lists. During an exercise, these lists may change anywhere from one to six times. Making the changes, typing a master, and reproducing the required number of copies can be a formidable task. The EA-6B LIST MANAGEMENT Programs were designed to help alleviate the problems stated above. The EWO selects the List Management program that is applicable to his type EA-6B.

Three complete sets of lists are stored on the PROGRAMS floppy disk at any one time. The operator may recall any set, list it on the CRT or on paper, make any changes he desires, list it again, and save the changed lists on the disk in place of the old set.

Those parameters allowed in the EA-6B's on board computer are acceptable entries. Most erroneous entry attempts will be rejected.

6. The MATCH program is a post mission signal identification aid. The operator inputs the parameters of an unidentified signal. The computer scans the EPL data base and lists all signals that match the inputted parameters.

The operator may enter a signal's frequency, prf, and pulse width or its frequency plus one of the remaining two parameters. The more parameters inputted, the smaller the output listing. The final identification is left to the operator. He may use scan type, scan rate, and/or modulation type for the final identification.

The listing may be printed on paper for later use.

7. The HULTEC program provides the EWO with a convenient means of maintaining an up to date HULTEC file. The operator inputs an emitter's frequency, PRF, PRI range, scan period, pulse width, name, NTDS key number, and the associated platform name. The inputs may be stored on the floppy disk for use at a later date. Before being saved, the operator inputs the current date.

Each time the program is run, the HULTEC file is loaded

into the computer. The operator may then view the existing file, change any data needing changing, save the updated data file, and obtain hard copies of the data file.

The operator may input up to fifty different lines of data. Prior to it being saved, it is arranged in ascending frequency order.

A listing by platform name or emitter name is possible. The operator must input the name and all data lines containing that name will be listed on the CRT then on paper if desired.

8. The PRINT program will provide a hardcopy printout of the EPL and EOB data bases. The elint notation and NATO nickname of each emitter in the EPL is printed. For the Mobile EOB, the platforms' name and country code is listed. While for the Land EOB, each site's latitude, longitude, and country code is listed. This program eliminates the necessity of NEEO mailing data base listings with each update.

D. DATA MANAGEMENT

The KFAM-3 data management system is the heart of most of the mission planning programs. The KFAM subroutines and associated key files make it possible to quickly locate a particular data record in the file. After the record is located, the main program retrieves the data and processes it before presenting it to the operator.

The key files contain a portion of the data record (the key) plus the record's location in the data file. The keys used in the mission planning programs are:

DATA FILEKEY

Mobile EOB

Platform's name and CC

EPL

Elint notation

EPL

Emitter name

EPL

Elint notation, mode counter,
frequency low, and frequency
high.

The key files are created through two special WANG support utilities described in section six. The key file creation is included in the support provided by NEEO Damneck.

The Land program does not use KFAM to locate the sites, since the mission planner is interested in an area rather than one particular site. The binary search technique [6] is used for locating the correct area of interest in the Land EOB data file. Once located, the data is sorted by comparing the data latitudes and longitudes to those entered by the operator. For the binary search technique to work, the latitudes and longitudes must be in ascending order.

Once all sites are located, KFAM is used to process the data for listing the emitters located at each site. In this case the EPL and one of its key files are used.

V. CONTRIBUTIONS AND FUTURE CONSIDERATIONS

A. OPERATIONAL USE

The programs were deployed with TACELRON 132 aboard USS CONSTELLATION (CV-64) in September 1978; with TACELRON 138 aboard USS DWIGHT D. EISENHOWER (CVN-60) in January 1979; and with TACELRON 137 aboard USS RANGER (CV-61) in February 1979.

They have also been made available to Commander, Medium Attack-Tactical Electronic Warfare Wing, U.S. Pacific Fleet, for use by the other EA-6B squadrons under their cognizance.

NEEO has been tasked and funded for one year to supply the required data bases monthly to each deployed EA-6B squadron.

To receive the initial data base, the squadron's EWO contacts NEE0 approximately four to six weeks prior to its scheduled deployment date. He informs NEE0 of their departure date, operating area (Med/WestPac), and any special requirements the squadron may have. If the squadron is in Norfolk, the EWO should visit the NEE0 Damneck office. U.S. data bases are available for those squadrons on build ups. The same procedures are followed for requesting the U.S. data bases.

B. FUTURE CONSIDERATIONS

Because of time constraints, many features needed to make this a complete mission planning package are not included. Without great modifications, all items discussed in this section could be incorporated, thus expanding the features and versatility of this system.

If this project is to continue to be used by the operational squadrons, a source for funding NEEO is paramount. A projected cost estimate of twenty to thirty thousand dollars a year is required. This estimate is based on an average of four deployed squadrons receiving a monthly update. This cost would decrease if it's found through experience the monthly update is not required.

The programs in this project were constructed to operate independently of each other except for the START module. By using the START module and independent operation, future programs may be added without difficulty. Suggestions for new programs and improvements will be generated as more people use the existing programs. A central point of contact to receive these inputs is needed. COMMATVAQWINGPAC would be the logical choice. Continued software development may be done by thesis students at the Naval Postgraduate School and/or either Naval Electronic Engineering Office, Damneck, Virginia, or the Procal Support Office at Naval Ocean System Center, San Diego, California. Funding will be the determining factor, but COMMATVAQWINGPAC should pursue this matter.

Some suggested software improvements and/or additions are:

1. Incorporate WANG's newest data management system entitled IDEAS (Inquiry, Data Entry and Access System). IDEAS uses a technique called HIKAM (Hoshed Index Keyed Access Method). Key files are not required, thus more disk space would be available for data storage. IDEAS is compatible with the WANGs on-board the carriers.

2. Incorporate an XY plotting routine in the LAND program. This will allow computer plotting of the EOB on the proper ONC chart, thus automating one more manual function the mission planner is required to perform.

3. Add a program that will list all platforms or land sites that have an operator specified emitter.

4. Add the capabilities as outlined by Odell and Beaudet. That is, an interactive program utilizing a graphics terminal for complete EOB and strike path plotting. An optimization routine is considered essential with this interactive capabilities package.

The following hardware recommendations are made:

1. If a plotting routine is incorporated, an X-Y plotter will need to be installed on each carrier. These are available from various sources and can be incorporated without any difficulties.

2. The dual disk drive systems should be updated to triple drives. The approximate cost for each additional drive is fifteen hundred dollars. This third drive allows for more system flexibility for not only the mission planning programs but for general shipboard use as well.

3. An interactive graphics display will be required when the programs are expanded to their fullest capabilities.

APPENDIX A

USER'S GUIDE TO THE PROGRAM

A. INTRODUCTION

This section is intended to be used by the operators. How to operate each program is discussed. For those unfamiliar with the WANG 2200T, a brief discription on its operations has been included. More detailed information may be found in WANG's Programming in Basic. [7]

Some shipboard installations have dual and some triple disk drive units. Since the later is the predominate configuration, it will be used as the standard in this guide.

For the triple drive system, the PROGRAMS disk is to be installed in drive number one, the EOB disk in drive two, and the EPL disk in drive three. For the MATCH program, the EPL Key File disk is placed in drive two and the EPL disk in drive three.

For a dual drive system, the PROGRAMS disk is placed in drive one and the EPL disk in drive two. After the desired program is loaded, the EOB disk replaces the PROGRAMS disk in drive one. For the MATCH program, the EPL KEY File disk is placed in drive one and the EPL disk in drive two.

The programs are designed so that the operator may either 1) return to the beginning of the program currently in the computer, or 2) return to the START module to load in a different program, or 3) terminate all operations after the

selected program is finished executing. This provides for easy transfer from one program to another.

Prior to reloading the START module in a dual drive system; the PROGRAMS disk must be reinserted if it was removed. If this is not done, an error will result. The operator must then manually reload the START module.

Each program is designed to prompt the operator for information as it is needed. If the response is incorrect or inappropriate it will be rejected. The operator will be asked once again for the information.

B. BASIC OPERATOR INSTRUCTIONS

If the system has been operating, it will be necessary to clear memory prior to entering another program. This is accomplished by first depressing the RESET button. This stops the execution of any program that may be in memory. Then either type in the word CLEAR or depress the key labeled "CLEAR". The CRT display will appear as:

```
READY  
:CLEAR_.
```

The (EXEC) key is now depressed. Any programs that may have been in memory are now cleared. It is good practice to clear memory prior to loading any program into the computer.

The operator enters information into the computer via the keyboard. Each letter or number appears on the screen as the key is depressed. If an error is made, depress the BACK SPACE key to the erroneous value and reenter the correct values. Once the desired entry is displayed on the CRT, depress (EXEC)

to enter the information into the computer.

Whenever the computer is processing, the white light in the upper right corner of the keyboard will be illuminated. When the computer is waiting for an input from the operator, :_ will appear on the CRT screen.

C. START PROGRAM

The START program provides an easy access to the other programs in the EA-6B mission planning program library.

Operation:

1. Clear the computer's memory as discussed in the preceeding section.
2. Install the PROGRAMS disk in drive number one.
3. Key in LOAD DCF "START" exactly as it appears here. The CRT will appear as
:LOAD DCF "START" _
4. Depress (EXEC) to enter the load instruction.
5. After the :_ reappears on the CRT, key in RUN.
6. Depress (EXEC).
7. The following will appear on the CRT

DISPLAY

1. ARE YOU WORKING ON A 2 OR 3
DRIVE SYSTEM
2. WHICH PGM WOULD YOU LIKE TO DO
 - 1.LIST EMITTERS ON SELECTED SHIPS OR
AIRCRAFT
 - 2.LIST LAND BASED EMITTERS
 - 3.LIST THE PARAMETERS OF SELECTED
EMITTERS
 - 4.MATCH INTERCEPTED PARAMETERS TO
EMITTERS

INSTRUCTIONS

1. INPUT A 2 IF WORKING
ON A DUAL DRIVE SYSTEM.
IF IT IS A TRIPLE DRIVE
SYSTEM INPUT A 3.
2. SELECT THE DESIRED PGM
AND INPUT ITS NUMBER.

- 5.CHANGE OR MODIFY 'EXCAP' EA6B LISTS
- 6.CHANGE OR MODIFY 'ICAP' EA6B LISTS
- 7.PRINT A LISTING OF THE DATA BASE
- 8.STOP WORKING

Once loaded, the selected program will automatically start running and display a program header.

D. LAND PROGRAM

The LAND program will list (and in the future-plot) the EOB for any geographical area selected by the operator. The following list of displays and instructions will be seen during the execution of this program.

DISPLAY	INSTRUCTIONS
1. THIS PROGRAM WILL LIST THE RADAR SITES LOCATED WITHIN THE GEOGRAPHICAL BOUNDARIES SET BY THE OPERATOR	1. INFORMATION ONLY
2. **ENSURE THE LAND EOB IS IN DRIVE #__ AND EPL IN DRIVE #__**	2. DO AS INSTRUCTED
3. ENTER LAT OF LOWER LEFT CORNER·ENTER AS DDMMSS*	3. ENTER LAT· D IS DEGREES, M IS MINUTES, S IS SECONDS, * IS N OR S·
4. IS THIS THE CORRECT VALUE	4. VERIFY THE ENTRY. IF IT'S CORRECT ENTER Y.
5. ENTER LONG OF LOWER LEFT CORNER. ENTER AS DDDMMSS* IS THIS THE CORRECT VALUE	5. SAME AS 3 EXCEPT * IS E OR W.
6. ENTER LAT OF UPPER RIGHT CORNER. ENTER AS DDMMSS* IS THIS THE CORRECT VALUE	6. SAME AS 3
7. ENTER LONG OF UPPER RIGHT CORNER. ENTER AS DDDMMSS* IS THIS THE CORRECT VALUE	7. SAME AS 5
8. YOUR LOWEST LAT EXCEEDS HIGHEST LAT IN DATA BASE	8. HAVE THE WRONG EOB DATA DISK. INSERT THE CORRECT DISK.

- | | |
|--|---|
| 9. YOUR UPPER LAT IS LOWER THAN LOWEST
LAT IN DATA BASE | 9. SAME AS 8 |
| 10. TOTAL NUMBER OF SITES= | 10. TOTAL NUMBER OF SITES
LOCATED IN SEARCH.
NO ACTION NECESSARY. |
| 11. ENTERED VALUES WERE | 11. THE SAME VALUES YOU
ENTERED ARE PRINTED
OUT TO YOU. |
| 12. DO YOU WANT THE EMITTER LISTING TO
INCLUDE THE PARAMETERS (Y OR N) | 12. ENTER Y IF YOU WANT THE
SIGNAL PARAMETERS
INCLUDED IN THE LISTING. |
| 13. DO YOU WANT A HARD COPY(Y OR N) | 13. IF A HARD COPY IS
DESIRED ENTER Y. |
| 14. ENSURE PRINTER IS ON. SELECT CONT/
EXEC TO CONT | 14. ENSURE THE LINE PRIN-
TER IS ON AND SELECTED.
ENTER CONT THEN DEPRESS
EXEC TO CONTINUE. |
| 15. PROCESSING SITE #___ OF ___ | 15. TO INFORM YOU WHICH
SITE IS BEING PRO-
CESSED AT THE CURRENT
TIME. NO ACTION RE-
QUIRED. |
| 16. MORE TO BE SEEN. DEPRESS EXEC TO
CONTINUE | 16. USED WHEN THE CRT IS
SELECTED AS THE OUTPUT
DEVICE.TEN LINES OF DATA
IS PRESENTED AT ONE TIME.
TO VIEW NEXT SECTION
DEPRESS EXEC |
| 17. DO YOU WANT TO
1.PLOT THE EMITTERS
2.RETURN TO THE BEGINNING TO DO
ANOTHER AREA
3.STOP WORKING
4.RETURN TO 'START' PROGRAM
5.DO YOU WANT A HARD COPY | 17. DISPLAYED AFTER PGM
EXECUTION. SELECT ONE
OF THE OPTIONS AND
ENTER THAT NUMBER. |
| 18. INVALID. REENTER | 18. DISPLAYED WHENEVER AN
ILLEGAL VALUE IS EN-
TERED. REENTER THE
CORRECT VALUE. |
| 19. NOT INSTALLED AT THIS TIME. SELECT A
DIFFERENT NUMBER | 19. DISPLAYED WHEN THE PLOT
OPTION IS SELECTED IN
NUMBER 16 ABOVE. |

If the search phase must be terminated prior to its completion depress HALT. To view any sites that may have been located enter RUN 810. Once terminated, the search phase may not be reentered except at the beginning.

Once the listing starts, the operator may change the output device and/or the inclusion or exclusion of the signal parameters by:

- a. Depress HALT
- b. Enter D=0
- c. Enter RUN 810

The program may be terminated at any point by depressing HALT and entering RUN 1230.

E. MOBILE PLATFORM

The MOBILE PLATFORM program provides the planner the electronic order of battle associated with any desired mobile platform. The platform may be an aircraft, surface ship, submarine, or missile. The data base contains both commercial and combatants. The CRT displays and instructions for this program are shown below.

DISPLAY

1. THIS PGM WILL PROVIDE THE OPERATOR THE EOB FOR A GIVEN SHIP OR AIRCRAFT. THE PLATFORM IS IDENTIFIED BY NAME AND COUNTRY CODE
2. ENSURE THE EOB DISK IS INSTALLED IN DRIVE #_ AND THE EPL DISK IN DRIVE #_
3. DEPRESS EXEC TO CONTINUE

INSTRUCTIONS

1. INFORMATION ONLY
2. DO AS INSTRUCTED
3. DEPRESS EXEC AFTER STEP 2 IS COMPLETED

- | | |
|--|---|
| 4. DO YOU WANT THE PARAMETERS INCLUDED IN THE LISTING ?(Y OR N) | 4. ENTER Y TO INCLUDE THE PARAMETERS |
| 5. PLATFORM NAME IS | 5. ENTER THE PLATFORM'S NAME. ENSURE THE SPELLING IS CORRECT. |
| 6. PLATFORM'S COUNTRY CODE IS | 6. ENTER THE TWO LETTER CODE. THESE MAY BE FOUND IN A DIA PUB. |
| 7. UNIT NOT IN DATA BASE | 7. DISPLAYED WHEN A PLATFORM IS NOT IN THE DATA BASE OR SPELLING IS INCORRECT. |
| 8. MORE TO SEE. DEPRESS EXEC | 8. DATA IS PRESENTED IN GROUPS OF TEN. WHEN READY TO VIEW NEXT GROUP DEPRESS EXEC. |
| 9. DO YOU WANT A HARD COPY (Y OR N) | 9. ENTER Y IF A HARD COPY IS DESIRED. ENSURE LINE PRINTER IS ON AND SELECTED. |
| 10. DO YOU WANT TO:
1.DO OTHER UNITS
2.STOP
3.RETURN TO 'START' PROGRAM | 10. DISPLAYED WHEN THE PGM HAS FINISHED EXECUTING. SELECT ONE OF THE OPTIONS AND ENTER IT'S NUMBER. |

F. MATCH

The MATCH program was designed for post mission signal identification. The operator inputs the parameters of the unknown signal. The computer then scans the EPL searching for matches to the inputted values.

The parameters used for matching are frequency, prf and pulse width. The operator may match using all three parameters or frequency plus either of the remaining two. The CRT displays and instructions are shown below.

DISPLAY

1. THIS PGM SEARCHES THE EPL FOR ALL POSSIBLE MATCHES TO PARAMETERS SUPPLIED BY THE OPERATOR
2. ENSURE THE EPL KEY FILE DISK IS INSTALLED IN DRIVE #__
3. IF PROPER DISKS ARE INSTALLED, DEPRESS EXEC TO CONTINUE
4. DO YOU WANT TO MATCH IN:
 - 1.FREQ,PRF,&PW
 - 2.FREQ & PRF
 - 3.FREQ & PW
5. ENTER FREQ
6. FREQ=__
IS THIS THE CORRECT VALUE (Y OR N)
?CR=Y?
7. ENTER PRF
8. PRF=__
IS THIS THE CORRECT VALUE(Y OR N)?CR=Y?
9. ENTER PW
10. PW=__
IS THIS THE CORRECT VALUE(Y OR N)CR=Y?
11. TOTAL MATCHES=__
IF YOU NEED TO TERMINATE THE SEARCH MODE AND WISH TO SEE THE MATCHES MADE, ENTER RUN 830
12. NO MATCH FOR: FREQ=__ PRF=__ PW=__
13. NO MATCH FOR: FREQ= PRF=

INSTRUCTIONS

1. INFORMATION ONLY
2. DO AS DIRECTED
3. DO AS DIRECTED
4. SELECT ONE OF THE OPTIONS AND ENTER ITS NUMBER.
5. ENTER A FREQUENCY WITHIN THE EA6B's RANGE. NEED NOT ENTER FIVE DIGITS.
6. IF DISPLAYED VALUE IS CORRECT, DEPRESS EXEC. IF INCORRECT, ENTER N.
7. ENTER PRF UP TO 9999.
8. SAME AS 6.
9. ENTER PULE WIDTH UP TO 99.9
10. SAME AS 6
11. TOTAL NUMBER OF SIGNALS MATCHING ENTERED PARAMETERS. NO ACTION REQUIRED UNLESS YOU WISH TO TERMINATE. IF SO: ENTER HALT. ENTER RUN 830
12. DISPLAYED WHEN OPTION 1 WAS SELECTED WITH NO MATCHES.
13. SAME AS 12 BUT FOR OPTION 2

- | | |
|--|---|
| 14. NO MATCH FOR: FREQ= PW= | 14. SAME AS 12 BUT FOR OPTION 3 |
| 15. MORE TO COME. DEPRESS EXEC TO CONTINUE | 15. USED WHEN LISTING MATCHES. SCREEN IS LIMITED TO 16 LINES. TO VIEW NEXT SECTION DEPRESS EXEC |
| 16. NO FURTHER MATCHES. DEPRESS EXEC TO CONTINUE | 16. DO AS INSTRUCTED. ALL MATCHES HAVE BEEN VIEWED. |
| 17. DO YOU WANT A HARD COPY(Y OR N) | 17. ENTER Y IF A HARD COPY IS DESIRED. ENSURE THE LINE PRINTER IS ON AND SELECTED. |
| 18. DO YOU WANT TO:
1.DO ANOTHER MATCH
2.RETURN TO 'START' PROGRAM
3.STOP | 18. SELECT ONE AND ENTER ITS NUMBER |

G. EMITTER PARAMETER(LIST)

This program will provide the mission planner with a listing of an emitter's signals. The data is retrieved by entering either the emitter's elint notation or its NATO nickname. CRT displays and instructions are shown below.

When using the NATO nickname, not all of the functions (e.g. MC, MG, TT, etc) of a single emitter will be retrieved if each function has a unique elint notation. It is recommended the operator use elint notation for all multi-functional emitters.

DISPLAY

INSTRUCTION

- | | |
|--|---------------------|
| 1. THIS PGM WILL LIST THE PARAMETERS OF ANY EMITTER SELECTED BY THE OPERATOR. SELECTION IS BY ELINT NOTATION OR NATO NICKNAME. | 1. INFORMATION ONLY |
| 2. **ENSURE THE EPL DISK IS INSTALLED IN DRIVE #__** | 2. DO AS DIRECTED |

- | | |
|---|--|
| 3. DO YOU WISH TO SEARCH VIA NATO
NICKNAME OR ELINT NOTATION
1.ELINT
2.NAME | 3. ENTER EITHER A 1 OR 2. |
| 4. EMITTER ELINT NOTATION IS | 4. ENTER THE FIVE DIGIT
ELINT NOTATION |
| 5. MORE TO SEE. DEPRESS EXEC TO CONTINUE | 5. MORE DATA TO BE SEEN,
DEPRESS EXECUTE TO
CONTINUE |
| 6. DO YOU WANT A HARD COPY(Y OR N) | 6. ENTER Y IF A HARD COPY
IS DESIRED. ENSURE THE
LINE PRINTER IS ON AND
SELECTED. |
| 7. DO YOU WISH TO:
1.SEARCH FOR ANOTHER EMITTER
2.STOP
3.RETURN TO 'START' PROGRAM | 7. DISPLAYED AFTER PGM IS
FINISHED. SELECT AN
OPTION AND ENTER ITS
NUMBER. |
| 8. CHECK ENTRY. IF IT'S CORRECT, THEN THE
EMITTER IS NOT LOCATED IN THE DATA FILE. | 8. DISPLAYED
IF AN EMITTER CAN NOT
BE LOCATED IN THE DATA
BASE. |
| 9. EMITTER NAME IS | 9. ENTER THE EMITTER'S
NATO NICKNAME |
| 10. INVALID.REENTER | 10. DISPLAYED IF AN ERROR
IS MADE WHEN ENTERING
INFORMATION FOR 3 AND
7. REENTER THE RE-
QUESTED DATA. |

H. EXCAP EA-6B LIST MANAGEMENT PROGRAM

The EXCAP (Expanded Capabilities) EA-6B LIST program provides the EXCAP squadron's Electronic Warfare Officer the capability of maintaining three separate sets of EXCAP EA-6B acquisition and CCI assignment lists in the computer. Any one set may be retrieved, changed, listed on paper, and saved, without affecting the other lists. Any number of hard copies may be made. The CRT displays and instructions are listed below. Only the PROGRAMS disk is required for this program.

DISPLAY

1. THIS PGM WILL ASSIST THE EWO IN
MANAGING THE EXCAP SQUADRON'S ACQ
AND CCI ASSIGNMENT LISTS.
2. WHICH LIST SET DO YOU WANT TO WORK WITH
 - 1.WAS
 - 2.LAND
 - 3.ASMD
3. DO YOU DESIRE A LISTING OF THE PRESENT
LISTS (Y OR N)
4. DO YOU WANT A HARD COPY OF THE LISTS
(Y OR N)
5. HOW MANY COPIES
6. DO YOU WANT TO
 1. ENTER ALL NEW LISTS
 2. CHANGE SOME OF THE LISTS
 3. CHANGE SELECTED PARAMETERS IN
A SELECTED LIST
 4. SAVE WHAT YOU HAVE DONE
 5. STOP
7. SAVE ANYTHING ?????
8. NUMBER OF LISTS TO BE ENTERED.
(≤ 40)
9. ENTER FREQ LO
10. ENTER FREQ HI
11. ENTER PRFI LO
12. ENTER PRFI HI

INSTRUCTIONS

1. INFORMATION ONLY
2. SELECT A LIST SET AND
ENTER ITS NUMBER
3. ENTER Y TO VIEW THE
SELECT LIST SET.
4. IF YES ENTER Y. ENSURE
THE LINE PRINTER IS ON
AND SELECTED.
5. WILL BE DISPLAYED ONLY
IF Y WAS ENTERED FOR 4.
ENTER THE NUMBER OF
COPIES NEEDED.
6. SELECT AN OPTION AND
ENTER ITS NUMBER
7. DISPLAYED IF OPTION 5
WAS SELECTED IN ITEM
6. THIS IS A SAFETY
FEATURE IN CASE YOU DID
WANT TO SAVE YOUR WORK.
8. DISPLAYED IF OPTION 1
IS SELECTED IN 6 ABOVE.
ENTER ANY NUMBER UP TO
AND INCLUDING 40.
9. ENTER ANY VALID EA-6B
VALUE
10. ENTER ANY VALID EA-6B
VALUE
11. ENTER ANY VALID EA-6B
VALUE
12. ENTER ANY VALID EA-6B
VALUE

- | | |
|---|--|
| 13. ENTER PRF 2 LO | 13. ENTER ANY VALID EA-6B
VALUE |
| 14. ENTER PRF 2 HI | 14. ENTER ANY VALID EA-6B
VALUE |
| 15. ENTER LTIFN | 15. ENTER ANY VALID EA-6B
VALUE |
| 16. ENTER SPRI | 16. ENTER ANY VALID EA-6B
VALUE |
| 17. ENTER TBKSF | 17. ENTER ANY VALID EA-6B
VALUE |
| 18. ENTER TTMB | 18. ENTER ANY VALID EA-6B
VALUE |
| 19. WHICH LIST DO YOU WISH TO CHANGE
(1TO30,41TO49) | 19. DISPLAYED IF OPTION 2
IS SELECTED IN 6 ABOVE.
ENTER THE NUMBER OF THE
LIST YOU WISH TO CHANGE. |
| 20. DO YOU WISH TO CHANGE ANOTHER LIST
(Y OR N) | 20. DISPLAYED IF OPTION 2 IS
SELECTED IN 6 ABOVE, AND
AFTER THE LIST SELECTED
IN 19 IS ENTERED. ENTER
Y IF YOU WANT TO CHANGE
ANOTHER LIST. |
| 21. DO YOU WANT TO
1.STOP
2.RETURN TO THE 'START' PROGRAM
3.RETURN TO THE BEGINNING OF THIS
PROGRAM | 21. SELECT ONE OF THE OPTIONS
AND ENTER ITS VALUE. |
| 22. INVALID,REENTER | 22. AN ERRONEOUS VALUE WAS
ENTERED. ENTER A
CORRECT VALUE. |
| 23. TO CONTINUE DEPRESS EXEC | 23. DISPLAYED WHEN THE
LISTS ARE BEING VIEWED
ON THE CRT. THE LISTS
ARE PRESENTED IN GROUPS
OF TEN. TO VIEW NEXT SET
DEPRESS EXEC. |
| 24. WHICH LIST DO YOU WISH TO WORK WITH | 24. DISPLAYED IF OPTION 3
IN ITEM 6 WAS SELECTED
ENTER THE LIST # YOU
WISH TO WORK WITH |

25. WHICH PARAMETER DO YOU WISH TO CHANGE

- 1.RF LOW
- 2.RF HIGH
- 3.PRF 1 LOW
- 4.PRF 1 HIGH
- 5.PRF 2 LOW
- 6.PRF 2 HIGH
- 7.LTIFN
- 8.SPRI
- 9.TBKSF
- 10.TTMB
- 11.NO OTHERS

25. SELECT THE PARAMETER
TO BE CHANGED AND ENTER
ITS NUMBER

I. ICAP EA-6B LIST MANAGEMENT PROGRAM

This program is identical to the EXCAP EA-6B LIST MANAGEMENT program except it is designed for use with ICAP (improved capabilities) lists. The details as stated in section H (EXCAP LIST MANAGEMENT) are germane for this program. The displays and instructions that are different than those listed in section H are shown below. The WSC entry was left out since it changes from flight to flight.

DISPLAY

INSTRUCTIONS

- | | |
|---|----------------------------------|
| 1. THIS PGM WILL ASSIST THE EWO IN
MANAGING THE ICAP SQUADRON'S LISTS. | 1. INFORMATION ONLY |
| 2. ENTER FTP | 2. ENTER ANY VALID ICAP
VALUE |
| 3. ENTER SITE | 3. ENTER ANY VALID ICAP
VALUE |
| 4. ENTER SYM | 4. ENTER ANY VALID ICAP
VALUE |
| 5. ENTER PRI | 5. ENTER ANY VALID ICAP
VALUE |
| 6. ENTER S | 6. ENTER ANY VALID ICAP
VALUE |
| 7. ENTER FT | 7. ENTER ANY VALID ICAP
VALUE |

8. ENTER TBK

8. ENTER ANY VALID ICAP
VALUE

9. WHICH PARAMETER DO YOU WISH TO CHANGE

- 1.RF LOW
- 2.RF HIGH
- 3.PRF 1 LOW
- 4.PRF 1 HIGH
- 5.PRF 2 LOW
- 6.PRF 2 HIGH
- 7.SITE
- 8.SYM
- 9.PRI
- 10.S
- 11.FT
- 12.TBK
- 13.NO OTHERS

9. SELECT THE PARAMETER
YOU WISH TO CHANGE
AND INPUT ITS NUMBER

There are only one set of data files available for use with the list management programs. Therefore, an EXCAP squadron should not attempt to use the ICAP LIST MANAGEMENT program. Likewise, a ICAP squadron should not attempt to use the EXCAP LIST MANAGEMENT program.

J. HULTEC PROGRAM

The HULTEC program provides the EWO a convenient means of maintaining an up to date HULTEC data file. A maximum of fifty lines of data may be resident in the data file at any one time. Each data line consists of an emitter's name, frequency, associated platform, PRF, PRI interval, scan period, pulse width, and NTDS key file number. Each line may be changed in its entirety or selectively.

The operator may list the entire data file or list those data lines with a particular platform or emitter. Unlimited hard copies of the listings may be made.

Leading zeros should be used for each numerical entry. The data file is sorted in ascending frequency order. If leading zeros are not used, the resultant file will not be in ascending order. Also, the values will be left justified. With leading zeros, these problems do not exist. The leading zeros will not appear in the printout.

The CRT displays and instructions are shown below. Only the PROGRAMS disk is required for this program.

DISPLAY

INSTRUCTIONS

- | | |
|---|---|
| 1. THIS PGM PROVIDES A CONVENIENT MEANS OF MAINTAINING AN UP TO DATE HULTEC FILE. | 1. INFORMATION ONLY.
NO ACTION REQUIRED. |
| 2. DO YOU WISH TO LOOK AT THE ENTIRE FILE AT THIS TIME (Y OR N) | 2. IF YOU WISH TO SEE THE DATA FILE STORED ON THE DISK ENTER Y. |
| 3. MORE TO SEE. DEPRESS EXEC TO CONT | 3. DATA IS PRESENTED IN GROUPS OF 10. WHEN READY TO VIEW NEXT GROUP DEPRESS EXEC. |
| 4. DO YOU WISH TO:
1.CHANGE AN ENTRY
2.OBTAIN A HARD COPY OF THE CURRENT FILES
3.SAVE WHAT YOU HAVE DONE
4.LIST THE FILES
5.SEARCH FOR A PARTICULAR PLATFORM
6.SEARCH FOR A PARTICULAR EMITTER
7.RETURN TO THE START PGM
8.STOP | 4. SELECT AN OPTION AND ENTER ITS NUMBER. |
| 5. WHICH LINE DO YOU WISH TO CHANGE | 5. ENTER THE LINE NUMBER (BETWEEN 1 AND 50) TO BE CHANGED. |
| 6. DO YOU WISH TO CHANGE
1.ALL VALUES
2.SELECTED VALUES | 6. SELECT AN OPTION AND ENTER ITS NUMBER. |
| 7. ENTER RF | 7. ENTER A FIVE DIGIT VALUE. USE LEADING ZEROS. |

- | | |
|--|---|
| 8. ENTER PRF | 8. ENTER A VALUE OR DEPRESS EXEC. |
| 9. ENTER PRI 1 | 9. ENTER A VALUE OR DEPRESS EXEC. |
| 10. ENTER PRI 2 | 10. ENTER A VALUE OR DEPRESS EXEC. |
| 11. ENTER PW | 11. ENTER A VALUE OR DEPRESS EXEC. |
| 12. ENTER SCAN PERIOD | 12. ENTER A VALUE OR DEPRESS EXEC. |
| 13. ENTER PLATFORM'S NAME | 13. ENTER A VALUE OR DEPRESS EXEC. |
| 14. ENTER EMITTER'S NAME | 14. ENTER A VALUE OR DEPRESS EXEC. |
| 15. ENTER NTDS KEY NUMBER | 15. ENTER A VALUE OR DEPRESS EXEC. |
| 16. WHICH VALUE DO YOU WISH TO CHANGE?
SELECT ONE
1.RF
2.PRF
3.PRI 1
4.PRI 2
5.PW
6.SCAN PERIOD
7.PLATFORM'S NAME
8.EMITTER'S NAME
9.NTDS KEY NUMBER
10.NO OTHERS | 16. SELECT AN OPTION AND ENTER ITS NUMBER. |
| 17. PRINTER ON AND SELECTED?
DEPRESS EXEC TO CONT. | 17. DO AS INSTRUCTED |
| 18. HARD COPY DESIRED (Y OR N) | 18. ENTER Y IF HARD COPIES ARE DESIRED |
| 19. NUMBER OF COPIES | 19. ENTER THE NUMBER OF COPIES DESIRED |
| 20. TODAY'S DATE IS | 20. ENTER THE CURRENT DATE AS MM/DD/YY |
| 21. ENTER PLATFORM'S NAME | 21. ENTER THE PLATFORM'S NAME THAT YOU WISH TO HAVE THE DATA ON |

22. NO PLATFORM WITH THAT NAME

22. WRONG SPELLING, SPACING,
OR PLATFORM IS NOT IN
DATA FILE.

23. ENTER EMITTER'S NAME

23. ENTER THE EMITTER'S
NAME THAT YOU WISH TO
HAVE THE DATA ON

24. NO EMITTER WITH THAT NAME

24. WRONG SPELLING, SPACING,
OR EMITTER IS NOT IN DATA
FILE

K. PRINT PROGRAM

The PRINT program will provide to the operator a listing of the key elements of each data base. For the EPL, this listing contains the elint notation, NATO Nickname, function code, and comments of each emitter. A mobile platform's name and its country code will be listed from the Mobile EOB. While for the Land EOB, each site's latitude, longitude, and country code will be listed.

The CRT displays and instructions for this program are shown below. The programs disk is installed in drive number one and the appropriate data disk in drive two.

DISPLAY

1. WHICH DATA FILE DO YOU WISH TO WORK
WITH
 - 1.EPL
 - 2.MOBILE EOB
 - 3.LAND EOB
2. ENSURE THE APPROPRIATE DATA DISK IS
INSTALLED IN DRIVE TWO, AND THE LINE
PRINTER IS ON AND SELECTED. DEPRESS
EXEC TO CONTINUE.

INSTRUCTIONS

1. ENTER THE DESIRED
NUMBER
2. ENSURE THE CORRECT
DATA DISK IS INSTALLED
AND THE LINE PRINTER
IS ON AND SELECTED.
DEPRESS EXEC.

If ERR 80 occurs after step two, the data disk in drive two and that selected in step one above do not agree. Insert the correct disk and enter RUN.

L. KEY FILE INITIALIZATION

The Key File is an integral part of the WANG KFAM-3 data management system used in the EA-6B Mission Planning Programs. The various key files used in these programs are established by NEEO prior to the squadrons receiving the data file.

The Initialize KFAM File and Key File Creation utility programs from the KFAM-3 ISS Utilities [5] package are used to create the four key files used in the mission planning programs. The EPL data file has three separate associated key files and the Mobile EOB data file has one. The Land EOB file does not have a key file.

To conform to KFAM-3 name requirements, the Land EOB library is entitled EOB2F1 (even though it has no key file). The Mobile EOB library is entitled EOB1F1 while the EPL library is called EPL1F1.

The following information is required by the Initialize Key File utility. The data disk is installed in drive two. All key files except EPL1K3 are built on their respective data disk. Because of its size, the EPL1K3 file is built a separate disk.

a) User file name	EPL1F1	EPL1F1	EPL1F1	EOB1F1
b) Device address for user file	B10	B10	B10	B10
c) Data file catalogued	Yes	Yes	Yes	Yes
d) Key file number	1	2	3	1
e) Device address for keyfile	B10	B10	B10	B10
f) Record type	A	A	A	A
g) Logical record length	63	63	63	63
h) Blocking factor	4	4	4	4
i) Key length	5	12	21	17
j) Starting position of key	3	12	3	4
k) Estimated number of records	Note1	Note2	Note2	Note2

NOTE 1: Use the total number of elint notation's
in the data base.

NOTE 2: Multiply the User File size by four then
subtract eight.

The information required by the Key File Creation utility
may be obtained from that listed previously for the Initialize
Key File Utility.

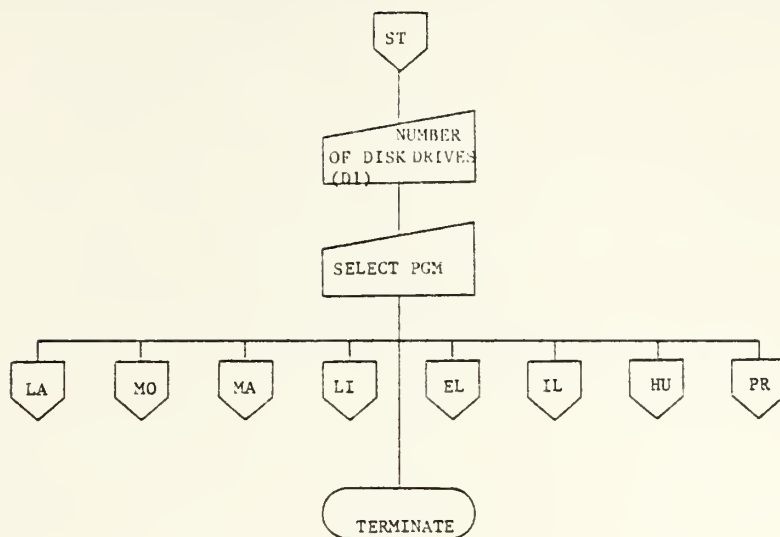
Duplicate key errors will be generated when constructing
EPL1K1 and EPL1K2. To decrease the time required for building
the key files, the print instructions in line 6960 in the
creation utility should be deleted. Line 6194 should be
modified to select the CRT instead of the line printer.

The data base format has been standardized to that
described in Section IV B of this report. Any deviation from
this format may render the programs useless.

APPENDIX B

START

```
10 REM START PGM FOR EA6B MSN PLANNING AS OF 2-5-79 BY LT S.W.
    SMITH, USN
20 PRINT HEX(03):COM D1
30 INPUT "ARE YOU WORKING ON A 2 OR 3 DRIVE SYSTEM",B
40 IF B=2 THEN 50:D1=1:GOTO 60
50 D1=2
60 PRINT HEX(03)
70 PRINT "WHICH PGM WOULD YOU LIKE TO DO"
80 PRINT "      1.LIST EMITTERS ON SELECTED SHIPS OR AIRCRAFT"
T"
90 PRINT "      2.LIST LAND BASED EMITTERS"
100 PRINT "      3.LIST THE PARAMETERS OF SELECTED EMITTERS"
110 PRINT "      4.MATCH INTERCEPTED PARAMETERS TO EMITTERS"
120 PRINT "      5.CHANGE OR MODIFY 'EXCAP' EA6B LISTS"
130 PRINT "      6.CHANGE OR MODIFY 'ICAP' EA6B LISTS"
140 PRINT "      7.PRINT A LISTING OF THE DATA BASE"
150 PRINT "      8.WORK WITH THE HULTEC PGM"
160 PRINT "      9.STOP WORKING"
170 INPUT A
180 ON A GOTO 200,210,250,220,230,240,260,270,280
190 PRINT "INVALID. REENTER" :GOTO 70
200 LOAD DC F "MOBILE"
210 LOAD DC F "LAND"
220 LOAD DC F "MATCH"
230 LOAD DC F "EA6 XLST"
240 LOAD DC F "EA6 ILST"
250 LOAD DC F "L EMIT"
260 LOAD DC F "PRINT"
270 LOAD DC F "HULTEC1"
280 STOP
```

LA LAND
MO MOBILE
MA MATCH
LI LIST EMITTER PARAMETERS
EL EXCAP LIST MANAGEMENT
IL ICAP LIST MANAGEMENT
HU HULTEC
PR PRINT DATA LISTING

START

A PROGRAM SELECTION VARIABLE
B NUMBER OF DISK DRIVES INPUT VARIABLE
D1 COM VARIABLE FOR NUMBER OF DISK DRIVES

LAND

```

10 REM LAND PROGRAM DEVELOPED BY LT S.W.SMITH,USN,2/12/79
20 PRINT HEX(03):COM D1
30 PRINT TAB(4);"THIS PGM WILL LIST THE RADAR SITES LOCATED
WITHIN THE":PRINT TAB(9);"GEOGRAPHICAL BOUNDARIES SET BY THE
  OPERATOR"
40 IF D1=1THEN 50:PRINT HEX(0A0A);"**ENSURE THE LAND EOB IS
IN DRIVE #1 AND EPL IN DIRVE #2":GOTO 410
50 PRINT HEX(0A0A);"**ENSURE THE LAND EOB IS IN DRIVE #2 AND
  EPL IN DRIVE #3**":GOTO 410
60 COM A2$(100)62,A3$(15)62,A$(4)62
70 COM Q$(2)64,Q5$64,Q7$1
80 COM U1$(1)7,U2$(1)7,B1$(1)8,B2$(1)8
90RETURN
100COM V7$8,T0$7,V9,V0$(3)2,T1(3):COM V0$2,V1$8,V2$2,V3$2,V4
$2,V6$1:COM Q2$2,Q3$2,V5$1,V8$1,T5$30,T7$30:COM T0,T9,T2$2,T
4$3,T2,V8,T8,T1,T8$1,T2$(8)2,T(8):COM T4,T5,V6,V7,V1
110COM Q,Q$1,T9$2,T0$(4)60
120COM T6$1,T3$3,T1$(1)2,T3$(1)33,V9$2,T1$30
130ADDC(V9$,V0$):DATA LOAD DA T#T1,(V9$,V9$)T9$,T0$():RETURN

140O2=99
150V9$=T2$:FOR T3=T0TO 1STEP -1:GOSUB 130:T2$(T3)=T9$:MAT SE
ARCHTOS()[1,V7],]STR(T1$,1,T4)TO T1$()STIP T5:T=VAL(STR(T1$(
1),2))-T5:IF T]0THEN 160:T=V1
160MAT COPY TOS()[T,T5]TO T3$():V9$=STR(T3$(1),T4+1,2):IF Q2
]99THEN 190
170T(T3)=T:NEXT T3:T7$=T1$:V=2:IF STR(T1$,1,T4)=STR(T3$(1),1
,T4)THEN 180:V=3
180RETURN
190MAT COPY TOS()[V1,1]TO T1$():IF T1$(1)=HEX(FF)THEN 200:Q2
=Q2+1:GOTO 170
200Q2=0:GOTO 170
210T4=VAL(STR(V1$,5)):T5=T4+3:V6=VAL(STR(V1$,6)):V7=T5*V6:V1
=V7-T5+1:RETURN
220Q$=" ":IF T6[1THEN 400:IF T6=T9THEN 90
230GOTO 400
240DATA SAVE DA T$#T1,(V0$,V9$)Q2$,Q3$,V5$,V8$,V0$,V1$,V2$,V
3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETURN
250DATA LOAD DA T#T1(T9),(V0$(T9),V9$)Q2$,Q3$,V5$,V8$,V0$,V1
$,V2$,V3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETU
RN
260T6=VAL(T4$)*256+VAL(STR(T4$,2)):DBACKSPACE #T2,BEG :IF T6
=0THEN 270:DSKIP #T2,T6$
270Q=VAL(STR(T4$,3)):Q$,T8$=" ":RETURN
280DEFFN'232(T6,T7,T1$):GOSUB 220:IF Q$]" "THEN 90:GOSUB 140
:T4$=STR(T3$(1),T4+1,3):T8$="2":IF V[]2THEN 380:IF T4$]HEX(F
F)THEN 380:GOSUB 260:RETURN
290DEFFN'230(T6,T7,Q2,Q3,V7$):IF T6[1THEN 390:IF T6]3THEN 39
0:IF V9]0THEN 330:INIT(FF)V0$():INIT(00)T0$
300IF STR(T0$,T7+1,1)]HEX(00)THEN 390:IF STR(T0$,Q2+1,1)]HEX
(00)THEN 390:IF Q2=T7THEN 390
310DATA LOAD DC OPEN T#Q2,V7$:STR(V7$,5,1)="K":CONVERT Q3TO
STR(V7$,6,1),(#):LIMITS T#T7,V7$,T,V,T3:V=INT(T/256):BIN(V0$
)=V:BIN(STR(V0$,2))=T-256*V:T9=T6:V0$(T9)=V0$:T1(T9)=T7:GOSU
B 250:GOSUB 210:V0$=V0$(T9):T1=T7:T2=Q2
320STR(T0$,T7+1,1)=HEX(01):STR(T0$,Q2+1,1)=HEX(01):V9=V9+1:Q
$=" ":T8$="0":RETURN
330IF V0$(T6)]HEX(FF)THEN 390:IF T9=0THEN 300:GOSUB 240:T9=0
:GOTO 300
340DEFFN'239(T6):IF T9=0THEN 350:GOSUB 240:T9=0

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```

350 IF V9=0 THEN 390: IF VO$(T6)]HEX(FF) THEN 390: T9=T6: GOSUB 25
0
360 T9=0: INIT(FF) VO$(T6): STR(TO$, T1+1, 1), STR(TO$, T2+1, 1)=HEX(
00): V9=V9-1: Q$=" ": RETURN
370 T8$="N"
380 Q$="N": RETURN
390 T8$="X"
400 Q$="X": RETURN
410 PRINT HEX(OA0A0A); TAB(15); "DEPRESS EXEC TO CONTINUE": INP
UT D: IF D1=1 THEN 420: LIMITS F"EOB2F1", A1, A2, A3: GOTO 430
420 LIMITS R"EOB2F1", A1, A2, A3
430 T=A1+(A3-2): H=T-1: J=H
440 GOSUB '200("000000N", "900000S", 8, 0, "ENTER LAT OF LOWER L
EFT CORNER. ENTER AS DDMMSS* ", 2): U1$=Q6$: PRINT "LOWER LEFT L
AT="; U1$: INPUT "IS THIS THE CORRECT VALUE? (Y OR N)", C$: IF C$
="N" THEN 440
450 GOSUB '200("0000000E", "1800000W", 9, 0, "ENTER LONG OF LOWE
R LEFT CORNER. ENTER AS DDMMSS* ", 2): B1$=Q6$: PRINT "LOWER LEF
T LONG="; B1$: INPUT "IS THIS THE CORRECT VALUE? (Y OR N)", C$: I
F C$="N" THEN 450
460 GOSUB '200("000000N", "900000S", 8, 0, "ENTER LAT OF UPPER R
IGHT CORNER. ENTER AS DDMMSS* ", 2): U2$=Q6$: PRINT "UPPER RIGHT
LAT="; U2$: INPUT "IS THIS THE CORRECT VALUE? (Y OR N)", C$: IF
C$="N" THEN 460
470 GOSUB '200("0000000E", "1800000W", 9, 0, "ENTER LONG OF UPPE
R RIGHT CORNER. ENTER AS DDMMSS* ", 2): B2$=Q6$: PRINT "UPPER RI
GHT LONG="; B2$: INPUT "IS THIS THE CORRECT VALUE? (Y OR N)", C$
: IF C$="N" THEN 470
480 IF D1=1 THEN 490: DATA LOAD DA F(A1, S) A$(): GOTO 500
490 DATA LOAD DA R(A1, S) A$()
500 FOR K=1 TO 4
510 IF U1$]STR(A$(K), 2, 7) THEN 530
520 GOTO 740
530 NEXT K
540 IF D1=1 THEN 550: DATA LOAD DA F(H, S) A$(): GOTO 560
550 DATA LOAD DA R(H, S) A$()
560 FOR K=1 TO 4
570 IF U1$]STR(A$(K), 2, 7) THEN 590
580 GOTO 610
590 NEXT K
600 PRINT HEX(OA0A): PRINT "YOUR LOWER LAT EXCEEDS HIGHEST LA
T IN DATA FILE": PRINT HEX(OA0A): GOTO 820
610 M=INT((A1+H)/2)
620 IF D1=1 THEN 630: DATA LOAD DA F(M, S) A$(): GOTO 640
630 DATA LOAD DA R(M, S) A$()
640 FOR K=1 TO 4
650 IF U1$]STR(A$(K), 2, 7) THEN 690
660 H=M
670 IF H=A1 THEN 750
680 GOTO 480
690 NEXT K
700 A1=M
710 IF A1=J THEN 1240
720 IF A1=H-1 THEN 740
730 GOTO 480
740 IF U2$]STR(A$(1), 2, 7) THEN 750: PRINT "YOUR HIGHEST LAT [
LOWEST LAT IN DATA BASE": PRINT HEX(OA0A): GOTO 820
750 IF D1=1 THEN 760: DATA LOAD DA F(S, S) A$(): GOTO 770
760 DATA LOAD DA R(S, S) A$()
770 FOR K=1 TO 4: IF U1$]STR(A$(K), 2, 7) THEN 790: IF B1$]STR(A$(
K), 9, 8) THEN 790: IF U2$]STR(A$(K), 2, 7) THEN 810: IF B2$]STR(A$(
K), 9, 8) THEN 790

```



```

780 C1=C1+1:A2$(C1)=A$(K):REM *IF ERR 18 OCCURS ENTER RUN810
*
790 NEXT K
800 GOTO 750
810 PRINT "TOTAL NUMBER OF SITES=";C1
820 IF C1]0THEN 850:PRINT :PRINT "ENTERED VALUES WERE:"
830 PRINT U1$,U2$
840 PRINT B1$,B2$:PRINT :GOTO 1230
850 IF D1=1THEN 860:SELECT #1B10,#2B10:GOTO 870
860 SELECT #1350,#2350
870 GOSUB '230(1,1,2,1,"EPL1F1")
880 INPUT "DO YOU WANT THE EMITTER LISTING TO INCLUDE THE PA
RAMETERS (Y OR N)",E$
890 INPUT "DO YOU WANT A HARD COPY(Y OR N)",C$
900 IF C$="N"THEN 960
910 STOP "ENSURE PRINTER IS ON. SELECT CONT/EXEC TO CONT":SE
LECT PRINT 215:C$="Y"
920 PRINT "TOTAL NUMBER OF SITES=";C1
930 PRINT "ENTERED VALUES WERE:"
940 PRINT U1$,U2$
950 PRINT B1$,B2$
960 FOR W=1TO C1 :REM INDEXING THRU LOCATIONS
970 PRINT HEX(OAOA):IF C$="Y"THEN 980:PRINT "PROCESSING SITE
#";W;"OF";C1
980 L3=21
990 IF STR(A2$(W),L3,5)=" "THEN 1130:REM END OF ELINT NUMBER
S ON PLATFORM CARD:REM ***IF ERR 18 OCCURS ENTER RUN 113
0***
1000 M4$=STR(A2$(W),L3,5) :REM M4$=ELINT NOTATION
1010 GOSUB '232(1,0,M4$):REM FINDOLD
1020 IF Q$[]" "THEN 1110:REM NO MATCH
1030 DATA LOAD DC #2,A$()
1040 D=D+1:A3$(D)=A$(Q):IF E$="N" THEN 1100:IF Q=4THEN 1090
1050 FOR K=Q TO 4
1060 IF A3$(D)=A$(K) THEN 1070:D=D+1:A3$(D)=A$(K)
1070 IF STR(A$(K),6,1)="-"THEN 1100
1080 NEXT K
1090 Q=1:DATA LOAD DC #2,A$():GOTO 1050
1100 L3=L3+5:IF L3]59 THEN 1130:GOTO 990
1110 D=D+1:A3$(D)=STR(M4$,1,5):STR(A3$(D),10,9)=" NO MATCH"
1120 L3=L3+5:IF L3[59THEN 990
1130 PRINT :PRINT "SITE # ";W:PRINT "LAT:";STR(A2$(W),2,7):P
RINT "LONG:";STR(A2$(W),9,8):PRINT "FCN CODE:";STR(A2$(
W),6,1,2) :PRINT "COUNTRY CODE:";STR(A2$(W),17,2)
1140 PRINTUSING 1340:PRINT A3$(1):IF E$="N"THEN 1150:PRINTUS
ING 1360
1150 IF D=1THEN 1200:FOR I=2TO D:PRINT A3$(I):IF STR(A3$(I),
6,1[)]-"THEN 1160:PRINT
1160 IF C$="Y"THEN 1190
1170 IF I=6 THEN 1180:IF I=16THEN 1180:IF I=26THEN 1180:IF I
=36 THEN 1180:GOTO 1190
1180 PRINT HEX(OA):INPUT "MORE TO SEE, DEPRESS EXEC",G
1190 NEXT I
1200 IF C$="Y"THEN 1220
1210 INPUT "MORE TO BE SEEN.DEPRESS EXEC",G
1220 D=0:NEXT W
1230 SELECT PRINT 005:C$="N":E$="N":PRINT HEX(OAOA):INPUT "N
O MORE TO BE SEEN. TO CONTINUE DEPRESS EXEC",E
1240 PRINT "DO YOU WANT TO"
1250 PRINT " 1.PLOT THE EMITTERS"
1260 PRINT " 2.RETURN TO THE BEGINNING TO DO ANOTHER ARE
A"
1270 PRINT " 3.STOP WORKING"

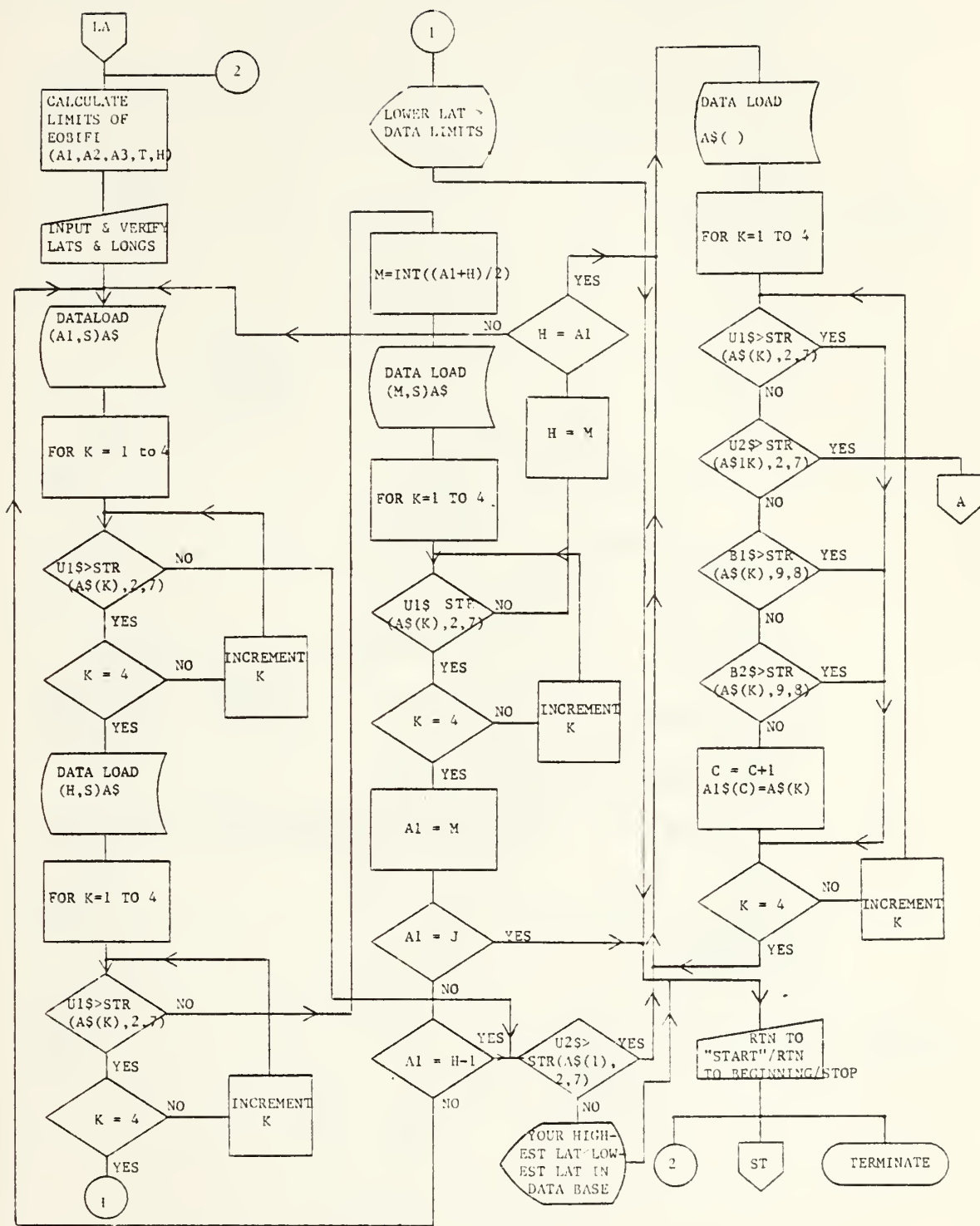
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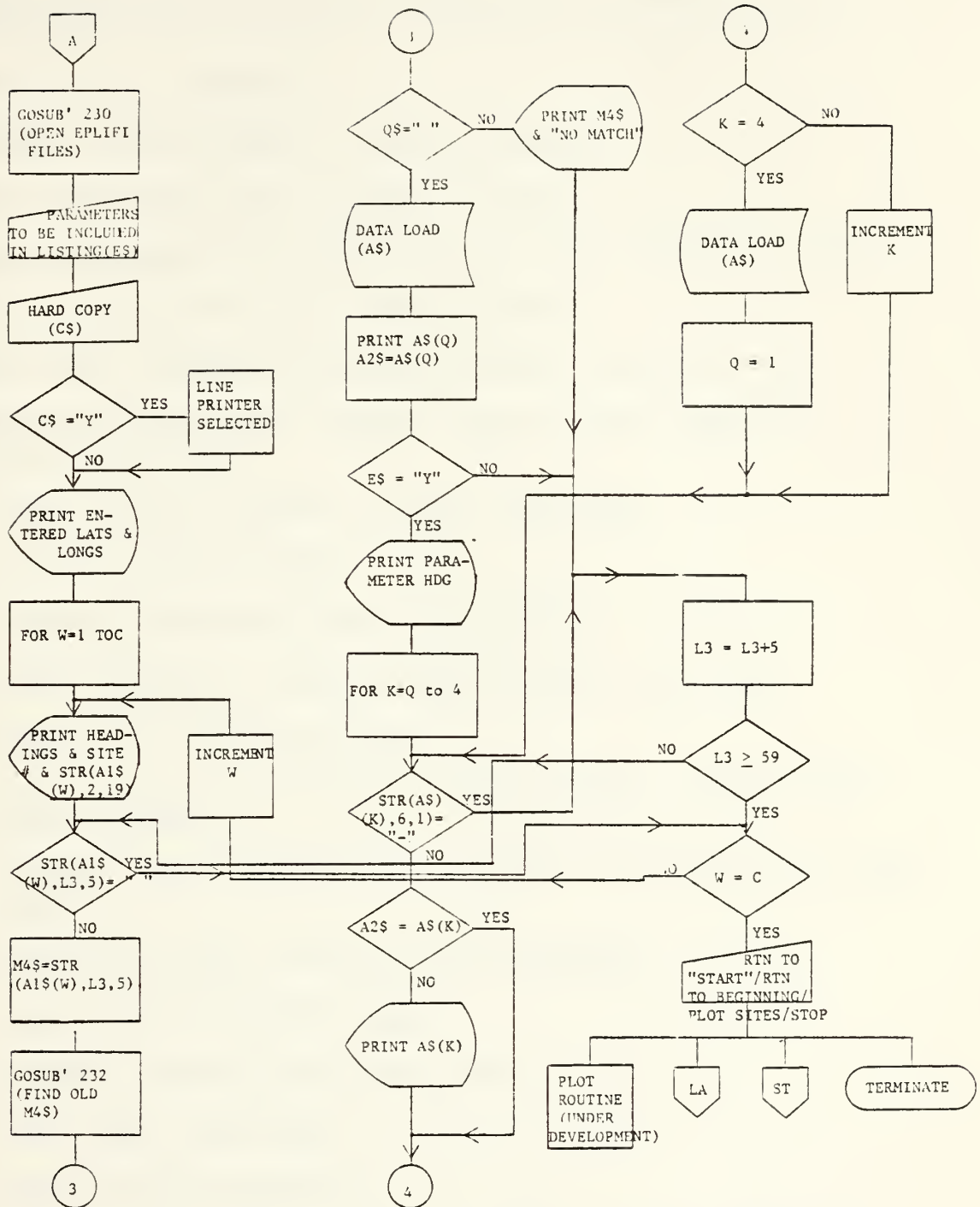


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1280 PRINT "      4.RETURN TO 'START' PROGRAM"
1290 PRINT "      5.DO YOU WANT A HARD COPY"
1300 INPUT E
1310 ON E GOTO 1330,1370,1370,1370,910
1320 PRINT "INVALID.REENTER":GOTO 1240
1330 REM PLOT ROUTINE:PRINT "NOT INSTALLED AT THIS TIME SEL
ECT A DIFFERENT NUMBER":GOTO 1240
1340 %ELINT MC  NATO NAME  FC  NTDS  COMMENTS
1350 %LAT/LONG  FCCC
1360 %ELINT MC  RFLO  RFHI PRFLO PRFHI PWLO PWHI MT SCTYP  S
PL SPU
1370 GOSUB '239(1):D,C1=0:IF E=2THEN 420:IF E=3THEN 1400
1380 IF D1=1THEN 1390:INPUT "INSTALL PGMS DISK IN DRIVE #1,
DEPRESS EXEC TO CONTINUE",D
1390 LOAD DC F"START"
1400 STOP
1410 DEFFN'200(Q$(1),Q$(2),Q3,Q4,Q5$,Q5)
1420 SELECT PRINT 005(64):PRINT HEX(03010A);Q5$;TAB(63):PRIN
T "?";:FOR Q8=1TO Q3:PRINT "-";:NEXT Q8:IF Q5=2THEN 1430:P
RINT "/";:IF Q4=0THEN 1430:FOR Q8=1TO Q4:PRINT "-";:NEXT Q8
1430 PRINT TAB(63):PRINT HEX(010A0A0909);:Q8=0:INIT(20)Q6$:
Q7$="0":Q6=0
1440 Q9$="":KEYIN Q9$,1450,1440:GOTO 1440
1450 IF Q9$=HEX(0D)THEN 1500:IF Q9$=HEX(08)THEN 1530:IF Q9$=
HEX(E5)THEN 1420:PRINT Q9$;:IF Q5=2THEN 1570:ON VAL(Q9$)-42
GOTO 1470,1460,1470,1480
1460 IF Q9$[HEX(30)THEN 1520:IF Q9$]HEX(39)THEN 1520:GOTO 14
90
1470 IF Q8[]0THEN 1520:Q6=1:GOTO 1490
1480 IF POS(Q6$=".")=0THEN 1490:IF POS(Q6$=".")[]Q8+1THEN 15
20
1490 Q8=Q8+1:STR(Q6$,Q8,1)=Q9$:U3$=Q6$:GOTO 1440
1500 PRINT HEX(070D0A):PRINT TAB(63):IF Q5=2THEN 1580:IF Q8=
0THEN 1520:IF Q8]13THEN 1520:IF Q8]Q3+Q4THEN 1520:Q7=POS(Q6$
="."):IF Q7=0THEN 1510:IF Q7]Q3+Q6+1THEN 1520:IF Q8-Q7]Q4THE
N 1520
1510 CONVERT STR(Q6$,1,Q8)TO Q9:CONVERT Q$(1)TO Q6:CONVERT Q
$(2)TO Q7:IF Q9[Q6THEN 1520:IF Q9[=Q7THEN 1590
1520 PRINT HEX(07):PRINT HEX(010A0A0A);"INVALID. RE-ENTER":G
OTO 1420
1530 Q8=Q8-1:IF Q8[]0THEN 1520:STR(Q6$,Q8+1,1)=" ":IF Q8=Q3TH
EN 1560:IF Q8[=Q3+Q4THEN 1550
1540 PRINT HEX(082008);:GOTO 1440
1550 PRINT HEX(082D08);:GOTO 1440
1560 IF Q5[]1THEN 1540:PRINT HEX(082F08);:GOTO 1440
1570 IF Q9$[HEX(20)THEN 1520:IF Q9$]HEX(7F)THEN 1520:GOTO 14
90
1580 IF Q8]Q3THEN 1520:IF Q6$[Q$(1)THEN 1520:IF Q6$]Q$(2)THE
N 1520
1590 RETURN

```



LAND

(DOES NOT INCLUDE THOSE USED BY KFAM AND DEFFN'200)

D EMITTER COUNTER

E INPUT VARIABLE FOR PROGRAM SELECTION AT COMPLETION OF
 PRINTING

G CONTINUATION VARIABLE

H HIGHEST SECTOR VALUE IN BINARY SEARCH

I INDEX VARIABLE USED IN PRINT ROUTINE

K INDEX VARIABLE WHEN SEARCHING THROUGH A SECTOR OF DATA

M MID SECTOR VARIABLE IN BINARY SEARCH

S RECEIVING VARIABLE FOR SECTOR NUMBER AFTER DA LOAD

W INDEX VARIABLE WHEN INDEXING THROUGH SITE LOCATION
 BUFFER ARRAY (A2\$)

A1 FIRST SECTOR ADDRESS IN LAND DATA FILE

A2 ENDING SECTOR ADDRESS

A3 NUMBER OF SECTORS USED IN DATA FILE

A4 TOTAL NUMBER OF SECTORS USED IN LAND DATA FILE

C1 NUMBER OF SITE ACCUMULATOR

D1 COM VARIABLE FOR NUMBER OF DISK DRIVES. PASSED FROM
 START PROGRAM

L3 COUNTER USED TO LOCATE END OF DATA IN A STRING OF SITE
 DATA

A\$ RECEIVING ARRAY FOR DATA LOAD COMMANDS

A2\$ SITE LOCATION BUFFER ARRAY

A3\$ EMITTER INFORMATION BUFFER ARRAY

B1\$ LOWER LEFT LONGITUDE

B2\$ UPPER RIGHT LONGITUDE

C\$ EITHER "Y" OR "N". IF "Y", A HARD COPY IS DESIRED

E\$ EITHER "Y" OR "N". IF "Y", PARAMETERS ARE TO BE
 INCLUDED IN PRINTOUT.

M4\$ ELINT NOTATION VARIABLE. USED IN FIND OLD ROUTINE TO
LOCATE EMITTER DATA

U1\$ LOWER LEFT LATITUDE

U2\$ UPPER RIGHT LATITUDE

MOBILE

```

10 REM DEVELOPED BY LT S.W.SMITH,USN 2/12/79
20 PRINT HEX(03):COM D1
30 PRINT TAB(10);"THIS PGM WILL PROVIDE THE OPERATOR THE EOB
  FOR A GIVEN SHIP OR ";TAB(10);"AIRCRAFT. THE PLATFORM IS ID
  ENTIFIED BY NAME AND COUNTRY CODE"
40 IF D1=2THEN 60
50 PRINT HEX(0A0A);TAB(10);"ENSURE THE EOB DISK IS INSTALLED
  INDRIVE #2":PRINT TAB(18); "AND THE EPL DISK IN DRIVE #3":G
  OTO 410
60 PRINT HEX(0A0A);TAB(10);"ENSURE THE EOB DISK IS INSTALLED
  IN DRIVE #1":PRINT TAB(18);"AND THE EPL DISK IN DRIVE #2":G
  OTO 410
70 COM A1$(4)62,A$19,A2$(9)62,A3$(70)63
80RETURN
90COM V7$8,T0$7,V9,V0$(3)2,T1(3):COM V0$2,V1$8,V2$2,V3$2,V4$
  2,V6$1:COM 02$2,Q3$2,V5$1,V8$1,T5$30,T7$30:COM T0,T9,T2$2,T4
  $3,T2,V8,T8,T1,T8$1,T2$(8)2,T(8):COM T4,T5,V6,V7,V1
100COM 0,Q$1,T9$2,T0$(4)60
110COM T6$1,T3$3,T1$(1)2,T3$(1)33,V9$2,T1$30
120ADDC(V9$,V0$):DATA LOAD DA T#T1,(V9$,V9$)T9$,T0$():RETURN

130Q2=99
140V9$=T2$:FOR T3=T0TO 1STEP -1:GOSUB 120:T2$(T3)=T9$:MAT SE
  ARCHTOS()[1,V7],]STR(T1$,1,T4)TO T1$()STEP T5:T=VAL(STR(T1$(
  1),2))-T5:IF T]0THEN 150:T=V1
150MAT COPY TOS()[T,T5]TO T3$():V9$=STR(T3$(1),T4+1,2):IF Q2
  [99THEN 180
160T(T3)=T:NEXT T3:T7$=T1$:V=2:IF STR(T1$,1,T4)=STR(T3$(1),1
  ,T4)THEN 170:V=3
170RETURN
180MAT COPY TOS()[V1,1]TO T1$():IF T1$(1)=HEX(FF)THEN 190:Q2
  =Q2+1:GOTO 160
190Q2=0:GOTO 160
200T4=VAL(STR(V1$,5)):T5=T4+3:V6=VAL(STR(V1$,6)):V7=T5*V6:V1
  =V7-T5+1:RETURN
210Q$=" ":IF T6[1THEN 390:IF T6=T9THEN 80
220GOTO 390
230DATA SAVE DA T$#T1,(V0$,V9$)Q2$,Q3$,V5$,V8$,V0$,V1$,V2$,V
  3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETURN
240DATA LOAD DA T#T1(T9),(V0$(T9),V9$(T9)Q2$,Q3$,V5$,V8$,V0$,V1
  $,V2$,V3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETU
  RN
250T6=VAL(T4$)*256+VAL(STR(T4$,2)):DBACKSPACE #T2,BEG :IF T6
  =0THEN 260:DSKIP #T2,T6$
260Q=VAL(STR(T4$,3)):Q$,T8$=" ":RETURN
270DEFFN'232(T6,T7,T1$):GOSUB 210:IF Q$]" "THEN 80:GOSUB 130
  :T4$=STR(T3$(1),T4+1,3):T8$="2":IF V[ ]2THEN 370:IF T4$]HEX(F
  F)THEN 370:GOSUB 250:RETURN
280DEFFN'230(T6,T7,Q2,Q3,V7$):IF T6[1THEN 380:IF T6]3THEN 38
  0:IF V9]0THEN 320:INIT(FF)V0$():INIT(00)T0$
290IF STR(T0$,T7+1,1)]HEX(00)THEN 380:IF STR(T0$,Q2+1,1)]HEX
  (00)THEN 380:IF Q2=T7THEN 380
300DATA LOAD DC OPEN T#Q2,V7$:STR(V7$,5,1)="K":CONVERT Q3TO
  STR(V7$,6,1),(#):LIMITS T#T7,V7$,T,V,T3:V=INT(T/256):BIN(V0$
  )=V:BIN(STR(V0$,2))=T-256*V:T9=T6:V0$(T9)=V0$:T1(T9)=T7:GOSU
  B 240:GOSUB 200:V0$=V0$(T9):T1=T7:T2=Q2
310STR(T0$,T7+1,1)=HEX(01):STR(T0$,Q2+1,1)=HEX(01):V9=V9+1:Q
  $=" ":T8$="0":RETURN
320IF V0$(T6)[HEX(FF)THEN 380:IF T9=0THEN 290:GOSUB 230:T9=0
  :GOTO 290
330DEFFN'239(T6):IF T9=0THEN 340:GOSUB 230:T9=0
340IF V9=0THEN 380:IF V0$(T6)]HEX(FF)THEN 380:T9=T6:GOSUB 24
  0

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350T9=0:INIT(FF)V0$(T6):STR(T0$,T1+1,1),STR(T0$,T2+1,1)=HEX(
00):V9=V9-1:Q$=" ":RETURN
360T8$="N"
370Q$="N":RETURN
380T8$="X"
390Q$="X":RETURN
400%#
410 PRINT HEX(0A0A0A):PRINT TAB(20);"DEPRESS EXEC TO CONTINU
E": INPUT D:PRINT HEX(03)
420 IF D1=1THEN 430:SELECT #1310,#2310:GOTO 440
430 SELECT #1 B10, #2 B10
440 I,C,D=0
450 GOSUB '230 (1,1,2,1,"EOB1F1") :REM OPFN FILES
460 INPUT "DO YOU WANT THE PARAMETERS INCLUDED IN THE LISTIN
G ? (Y OR N)",G$
470 PRINT "PLATFORM NAME IS":INPUT STR(A$,1,15)
480 PRINT "PLATFORM'S COUNTRY CODE IS":INPUT STR(A$,16,2)
490 GOSUB '232 (1,0,A$) :REM FIND OLD
500 IF Q$[ ]" " THEN 580 :REM NO MATCH
510 DATA LOAD DC #2, A1$( ) :REM LOAD PLATFORM DATA
520 A2$(1)=A1$(Q):I=1
530 IF STR(A1$(Q),20,1)=" " THEN 600:IF Q=4THEN 570
540 FOR K=Q TO 4:IF A2$(1)=A1$(K)THEN 560
550 I=I+1:A2$(I)=A1$(K)
560 IF STR(A1$(K),19,1)="-" THEN 600:NEXT K
570 Q=1:DATA LOAD DC #2,A1$():GOTO 540
580 PRINT HEX(0A0A): PRINT "UNIT NOT IN DATA BASE"
590 GOTO 930
600 GOSUB '239 (1) :REM CLOSE PLATFORM FILE
610 IF D1=1THEN 620:SELECT #1B10,#2B10:GOTO 630
620 SELECT #1350,#2350
630 GOSUB '230(1,1,2,1,"EPL1F1") :REM OPEN EPL FILES
640 FOR W=1 TO I :REM INDEXING THRU UNITS
650 M3=21
660 IF STR(A2$(W),M3,5)=" " THEN 800 :REM END OF ELINT NUM
BERS ON PLATFORM CARD
670 M4$=STR(A2$(W),M3,5)
680 GOSUB '232 (1,0,M4$)
690 IF Q$[ ]" " THEN 780
700 DATA LOAD DC #2, A1$( )
710 C=C+1:A3$(C)=A1$(Q):IF G$="N"THEN 790
720 FOR K=Q TO 4
730 IF A3$(C)=A1$(K) THEN 740:C=C+1:A3$(C)=A1$(K)
740 IF STR(A1$(K),6,1)="-" THEN 760
750 NEXT K:Q=1:DATA LOAD DC #2,A1$():GOTO 720
760 M3=M3+5:IF M3]59THEN 800:GOTO 660
770 GOTO 800
780 C=C+1:A3$(C)=STR(M4$,1,5):STR(A3$(C),10,9)="NO MATCH"
790 M3=M3+5:IF M3]=60THEN 660
800 NEXT W
810 PRINT :PRINTUSING 1020:PRINT STR(A2$(1),2,17);STR(A2$(1)
,61,2) :PRINTUSING 1010:PRINT A3$(1):IF G$="N"THEN 820:PRINT
USING 1030
820 FOR W=2TO C:IF G$="Y"THEN 830:IF STR(A3$(W),8,1)[ ]"0"THE
N 860
830 PRINT A3$(W):IF STR(A3$(W),6,1)[ ]"-" THEN 840:PRINT
840 IF C$="Y"THEN 860
850 IF W=10THEN 890:IF W=20THEN 890:IF W=30THEN 890
860 NEXT W
870 IF C$="Y"THEN 920
880 GOTO 900
890 INPUT "MORE TO SEE. DEPRESS EXEC",F: GOTO 860

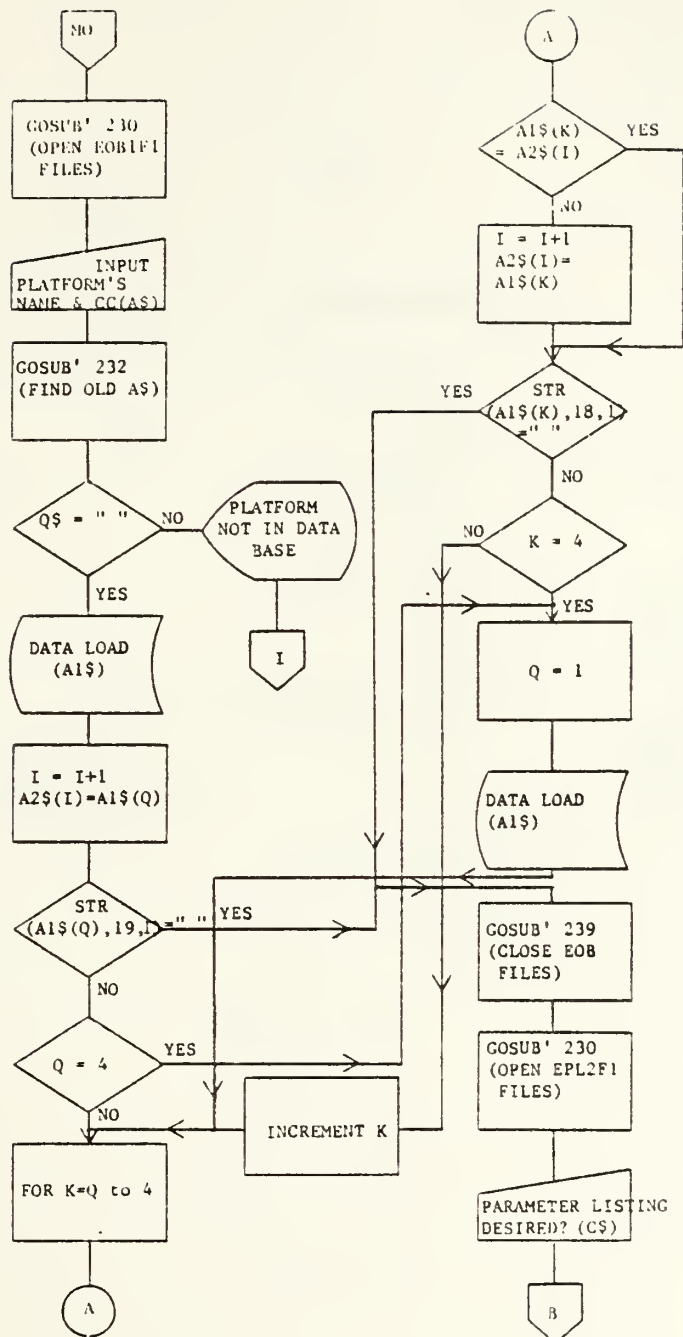
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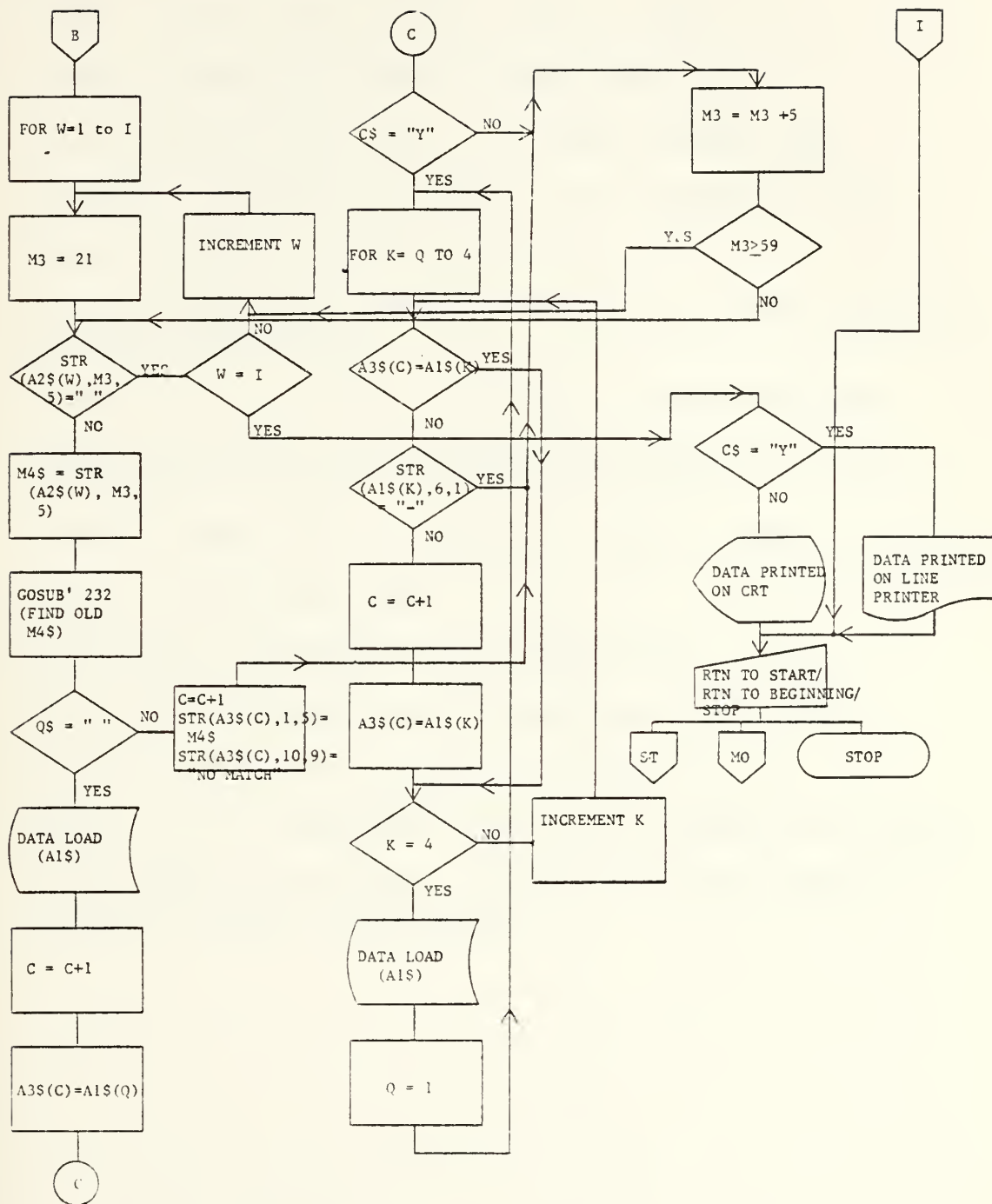


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900 INPUT "DO YOU WANT A HARD COPY (Y OR N)",C$
910 IF C$="N" THEN 930:C$="Y":SELECT PRINT 215:GOTO 810
920 SELECT PRINT 005:C$="N"
930 PRINT "DO YOU WANT TO:"
940 PRINT "      1.DO OTHER UNITS"
950 PRINT "      2.STOP"
960 INPUT "      3.RETURN TO 'START' PROGRAM",E
970 GOSUB '239(1):ON E GOTO 980,1040,990
980 PRINT HEX(03): GOTO 420
990 COM CLEAR :IF D1=1THEN 1000:PRINT HEX(030A0A0A):INPUT "I
NSTALL PGMS DISK IN DRIVE #1, DEPRESS EXEC TO CONTINUE",D:LO
AD DC F"START"
1000 LOAD DC F"START"
1010 %ELINT MC  NATO NAME      FC  NTDS      COMMENTS
1020 %UNITS NAME      CCFC
1030 %ELINT MC  RFLO  RFHI  PRFLO  PRFHI  PWLO  PWHI  MT  SCTYP  S
PL  SPU
1040 STOP

```



MOBILE PLATFORM

(DOES NOT INCLUDE THOSE USED BY KFAM)

C	COUNTER FOR PARAMETER DATA
D	INPUT VARIABLE FOR DEPRESS EXEC TO CONT
E	INPUT VARIABLE FOR END OF PROGRAM OPTION
F	INPUT VARIABLE FOR MORE TO BE SEEN DEPRESS EXEC
I	COUNTER FOR NUMBER OF LINES OF DATA STORED IN A2\$
K	INDEX VARIABLE IN FOR TO ROUTINES
W	INDEX VARIABLE FOR STEPPING THROUGH A2\$ WHEN RETRIEVING EMITTER INFORMATION
D1	NUMBER OF DISK DRIVES. PASSED FROM START PROGRAM
M3	INDEX VARIABLE TO STEP THROUGH THE STRING OF ELINT NOTATIONS CONTAINED IN EACH LINE IN A2\$
A\$	PLATFORM NAME AND CC VARIABLE. USED IN FIND OLD ROUTINE
A1\$	DATA LOAD RECEIVER ARRAY
A2\$	BUFFER FOR DATA FROM THE EOB DATA FILE
A3\$	BUFFER FOR PARAMETER DATA FROM THE EPL DATA FILE
C\$	HARD COPY RECEIVER VARIABLE. EITHER Y OR N
G\$	EQUAL TO Y IF PARAMETERS ARE TO BE INCLUDED IN LISTING
M4\$	ELINT NOTATION VARIABLE. USED IN FIND OLD ROUTINE TO RETRIEVE EMITTER INFORMATION

MATCH

```

10 REM MATCH DEVELOPED BY LT S.W.SMITH,USN 2/12/79
20 PRINT HEX(03):COM D1
30 COM D1,A1$(100)64,A$(4)62,U$5,V$5,W$4,P$(1)8
40 COM X$64,N$8,Q2$2,Q3$2,Q9$2,Q0$(4)60
50 GOTO 490
60 RETURN
70COM V7$8,T0$7,V9,V0$(3)2,T1(3):COM V0$2,V1$8,V2$2,V3$2,V4$
2,V6$1:COM Q2$2,Q3$2,V5$1,V8$1,T5$30,T7$30:COM T0,T9,T2$2,T4
$3,T2,V8,T8,T1,T8$1,T2$(8)2,T(8):COM T4,T5,V6,V7,V1
80COM Q,Q$1,T9$2,T0$(4)60
90COM T6$1,T3$3,T1$(1)2,T3$(1)33,V9$2,T1$30
100 DIM Q$(2)64,Q5$64,Q7$1
110ADDC(V9$,V0$):DATA LOAD DA T#T1,(V9$,V9$)T9$,T0$():RETURN

120Q2=99
130V9$=T2$:FOR T3=T0TO 1STEP -1:GOSUB 110:T2$(T3)=T9$:MAT SE
ARCHT0$()[1,V7],]STR(T1$,1,T4)TO T1$()STEP T5:T=VAL(STR(T1$(
1),2))-T5:IF T]0THEN 140:T=V1
140MAT COPY T0$()[T,T5]TO T3$():V9$=STR(T3$(1),T4+1,2):IF Q2
[99THEN 170
150T(T3)=T:NEXT T3:T7$=T1$:V=2:IF STR(T1$,1,T4)=STR(T3$(1),1
,T4)THEN 160:V=3
160RETURN
170MAT COPY T0$()[V1,1]TO T1$():IF T1$(1)=HEX(FF)THEN 180:Q2
=Q2+1:GOTO 150
180Q2=0:GOTO 150
190T4=VAL(STR(V1$,5)):T5=T4+3:V6=VAL(STR(V1$,6)):V7=T5*V6:V1
=V7-T5+1:RETURN
200Q$=" ":IF T6[1THEN 470:IF T6=T9THEN 60
210GOTO 470
220DATA SAVE DA T$#T1,(V0$,V9$)Q2$,Q3$,V5$,V8$,V0$,V1$,V2$,V
3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETURN
230DATA LOAD DA T#T1(T9),(V0$(T9),V9$(T9))Q2$,Q3$,V5$,V8$,V0$,V1
$,V2$,V3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETU
RN
240T6=VAL(T4$)*256+VAL(STR(T4$,2)):DBACKSPACE #T2,BEG :IF T6
=0THEN 250:DSKIP #T2,T6$
250Q=VAL(STR(T4$,3)):Q$,T8$=" ":RETURN
260DEFFN'232(T6,T7,T1$):GOSUB 200:IF Q$]" "THEN 60:GOSUB 120
:T4$=STR(T3$(1),T4+1,3):T8$="2":IF V[2THEN 450:IF T4$]HEX(F
F)THEN 450:GOSUB 240:RETURN
270DEFFN'235(T6):GOSUB 200:IF Q$]" "THEN 60:INIT(00)T1$:Q$,T
8$="5":GOTO 290
280DEFFN'237(T6):GOSUB 200:IF Q$]" "THEN 60:T=T(1):IF T8$="
"THEN 300:IF T8$]HEX(40)THEN 460:T1$=T7$
290GOSUB 120
300T=T+T5:IF T2$(1)=T9$THEN 310:V9$=T2$(1):GOSUB 110
310IF T]V1THEN 330:MAT COPY T0$()[T,T5]TO T3$():IF T3$(1)]HE
X(FF)THEN 330
320T7$=STR(T3$(1),1,T4):T4$=STR(T3$(1),T4+1,3):IF T4$]HEX(FF
)THEN 440:T(1)=T:T2$(1)=T9$:GOSUB 240:RETURN
330T3=1
340T3=T3+1:IF T3]0THEN 480:V9$=T2$(T3):GOSUB 110:T=T(T3):T=
T+T5:IF T]V1THEN 340:MAT COPY T0$()[T,T5]TO T3$():IF T3$(1)]
HEX(FF)THEN 340
350T(T3)=T:IF T3=1THEN 320:V9$=STR(T3$(1),T4+1,2):GOSUB 110:
MAT COPY T0$()[1,T5]TO T3$():T3=T3-1:T=1:T2$(T3)=T9$:GOTO 35
0
360DEFFN'230(T6,T7,Q2,Q3,V7$):IF T6[1THEN 460:IF T6]3THEN 46
0:IF V9]0THEN 400:INIT(FF)V0$():INIT(00)T0$
370IF STR(T0$,T7+1,1)]HEX(00)THEN 460:IF STR(T0$,Q2+1,1)]HEX
(00)THEN 460:IF Q2=T7THEN 460

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```

380DATA LOAD DC OPEN T#Q2,V7$:STR(V7$,5,1)="K":CONVERT Q3TO
STR(V7$,6,1),(#):LIMITS T#T7,V7$,T,V,T3:V=INT(T/256):BIN(V0$
)=V:BIN(STR(V0$,2))=T-256*V:T9=T6:V0$(T9)=V0$:T1(T9)=T7:GOSU
B 230:GOSUB 190:V0$=V0$(T9):T1=T7:T2=Q2
390STR(T0$,T7+1,1)=HEX(01):STR(T0$,Q2+1,1)=HEX(01):V9=V9+1:Q
$=" ":T8$="0":RETURN
400IF V0$(T6)[HEX(FF)THEN 460:IF T9=0THEN 370:GOSUB 220:T9=0
:GOTO 370
410DEFFN'239(T6):IF T9=0THEN 420:GOSUB 220:T9=0
420IF V9=0THEN 460:IF V0$(T6)]HEX(FF)THEN 460:T9=T6:GOSUB 23
0
430T9=0:INIT(FF)V0$(T6):STR(T0$,T1+1,1),STR(T0$,T2+1,1)=HEX(
00):V9=V9-1:Q$=" ":RETURN
440T8$="N"
450Q$="N":RETURN
460T8$="X"
470Q$="X":RETURN
480IF Q$="5"THEN 440:T8$,Q$="E":RETURN
490 PRINT "THIS PGM SEARCHES THE EPL FOR ALL POSSIBLE MATCHES
S TO PARAMETERS";TAB(18);"SUPPLIED BY THE OPERATOR"
500 IF D1=1THEN 510:PRINT HEX(0A0A);TAB(5);"ENSURE THE EPL K
EY FILE DISK IS INSTALLED IN DRIVE #1":PRINT TAB(15);"AND TH
E EPL DISK IN DRIVE #2":GOTO 520
510 PRINT HEX(0A0A);TAB(5);"ENSURE THE EPL KEY FILE DISK IS
INSTALLED IN DRIVE #2":PRINT TAB(15);"AND THE EPL DISK IN DR
IVE #3"
520 PRINT HEX(0A0A);TAB(10);"IF PROPER DISKS ARE INSTALLED,S
ELECT EXEC":INPUT G
530 PRINT HEX(03)
540 IF D1=1THEN 550:SELECT #1 310, #2 B10:GOTO 560
550 SELECT #1 B10, #2 350
560 GOSUB '230 (1,1,2,3,"EPL1F1")
570 PRINT "DO YOU WANT TO MATCH IN:"
580 PRINT "      1.FREQ,PRF,&PW"
590 PRINT "      2.FREQ & PRF"
600 PRINT "      3.FREQ & PW"
610 INPUT S5
620 GOSUB '200("40","10500",6,0,"ENTER FREQ ",1):K=Q9:CONVER
T Q 9TO U$,(#####):GOSUB '50(U$)
630 PRINT "FREQ=";U$:INPUT "IS THIS THE DESIRED VALUE(Y OR N
) CR=Y ",D$:IF D$="N"THEN 620
640 IF S5=3THEN 680
650 GOSUB '200("0","9999",5,0,"ENTER PRF",1):K=Q9:CONVERT Q9
TO V$,(#####):GOSUB '52(V$)
660 PRINT "PRF=";V$:INPUT "IS THIS THE DESIRED VALUE(Y OR N)
CR=Y",D$:IF D$="N"THEN 650
670 IF S5=2THEN 700
680 GOSUB '200("0.0","99.9",3,1,"ENTER PW ",1):K=Q9:CONVERT
O$ TO W$,(#.#):GOSUB '51(W$)
690 PRINT "PW=";W$:INPUT "IS THIS THE DESIRED VALUE(Y OR N)C
R=Y",D$:IF D$="N"THEN 680
700 GOSUB '235 (1) :REM FINDFIRST
710 IF U$[STR(T7$,10,5)THEN 800
720 DATA LOAD DC #2, A$()
730 IF U$]STR(A$(Q),16,5)THEN 800
740 IF S5=3 THEN 770
750 IF V$[STR(A$(Q),22,5)THEN 800:IF V$]STR(A$(Q),28,5)THEN
800 :REM PRF MATCH?
760 IF S5=2 THEN 780
770 IF W$[STR(A$(Q),34,4)THEN 800:IF W$]STR(A$(Q),39,4)THEN
800 :REM PW MATCH?
780 W=W+1:A1$(W)=A$(Q):PRINT HEX(03);"MATCHES MADE =";W:PRIN
T "IF YOU NEED TO TERMINATE THE SEARCH MODE AND WISH TO SEE
THE MATCHES MADE;ENTER RUN830"

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810 IF Q$="E" THEN 830 :REM END OF EPL FILE
820 GOTO 710 :REM LOOPING BACK TO CHECK NEW KEY
830 IF W]0 THEN 880 :REM IF POS THEN GOING TO PRINT ROUTINE

840 PRINT HEX(03):ON S5 GOTO 850,360,870
850 PRINT "NO MATCH FOR:  FREQ=";U$,"PRF=";V$,"PW=";W$:GOTO
1120
860 PRINT "NO MATCH FOR:  FREQ=";U$,"PRF=";V$ :GOTO 1120
870 PRINT "NO MATCH FOR:  FREQ=";U$,"PW=";W$ :GOTO 1120
880 GOSUB '239(1)
890 IF D1=1THEN 900:SELECT #1B10,#2B10:GOTO 910
900 SELECT #1350,#2350
910 GOSUB '230(1,1,2,1,"EPL1F1")
920 FOR I=1 TO W
930 IF I=1 THEN 950
940 IF STR(P$(1),1,5)=STR(A1$(I),1,5)THEN 1020:PRINT
950 P$(1)=STR(A1$(I),1,5)
960 GOSUB '232 (1,0,P$(1)):IF Q$[]" "THEN 980
970 DATA LOAD DC #2,A$()
980 IF I]1 THEN 1010
990 PRINTUSING 1060
1000 PRINT A$(Q):PRINT HEX(0A):PRINTUSING 1070:GOTO 1020
1010 PRINT A$(Q)
1020 PRINT A1$(I):IF C$="Y"THEN 1040
1030 IF I=6 THEN 1050:IF I=12THEN 1050:IF I=18THEN 1050:IF I
=24 THEN 1050:IF I=30THEN 1050
1040 NEXT I:IF C$="Y"THEN 1110:INPUT "NO FURTHER MATCHES.DEF
RESS EXEC TO CONTINUE",G:GOTO 1080
1050 INPUT "MORE TO COME. DEPRESS EXEC TO CONTINUE",G:GOTO 1
040
1060 %ELINT MC NATO NAME FC NTDS COMMENTS
1070 %ELINT MC RFLO RFHI PRFLO PRFHI PWLO PWHI MT SCTYP S
PL SPU
1080 INPUT "DO YOU WANT A HAPD COPY(Y OR N)",C$
1090 IF C$="N"THEN 1110
1100 SELECT PRINT 215:GOTO 920
1110 SELECT PRINT 005:PRINT HEX(03):C$="N":GOSUB '239(1):W,I
=0
1120 PRINT :PRINT "DO YOU WANT TO:"
1130 PRINT " 1.DO ANOTHER MATCH"
1140 PRINT " 2.RETURN TO 'START' PROGRAM"
1150 PRINT " 3.STOP"
1160 INPUT E
1170 ON E GOTO 530,1190,1210
1180 PRINT "INVALID.REENTER":GOTO 1120
1190 COM CLEAR :IF D1=1THEN 1200:INPUT "INSTALL PGMS DISK IN
DRIVE #1, DEPRESS EXEC TO CONTINUE",D:LOAD DC F"START"
1200 LOAD DC F"START"
1210 STOP
1220 DEFFN'50 (U$)
1230 FOR I=1TO 3:IF STR(U$,I,1)[ ]HEX(30)THEN 1240:STR(U$,I,1
)=HEX(20):NEXT I
1240 RETURN
1250 DEFFN'51 (W$)
1260 IF STR(W$,1,1)[ ]HEX(30)THEN 1270:STR(W$,1,1)=HEX(20)
1270 RETURN
1280 DEFFN'52 (V$)
1290 FOR I=1TO 3:IF STR(V$,I,1)[ ]HEX(30)THEN 1300:STR(V$,I,1
)=HEX(20):NEXT I
1300 RETURN
1310 DEFFN'200(Q$(1),Q$(2),Q3,Q4,Q5$,Q5)
1320 SELECT PRINT 005(64):PRINT HEX(03010A);Q5$;TAB(63):PRIN
T "?";:FOR Q8=1TO Q3:PRINT "-";:NEXT Q8:IF Q5=2THEN 1330:P
RINT "/";:IF Q4=0THEN 1330:FOR Q8=1TO Q4:PRINT "-";:NEXT Q8

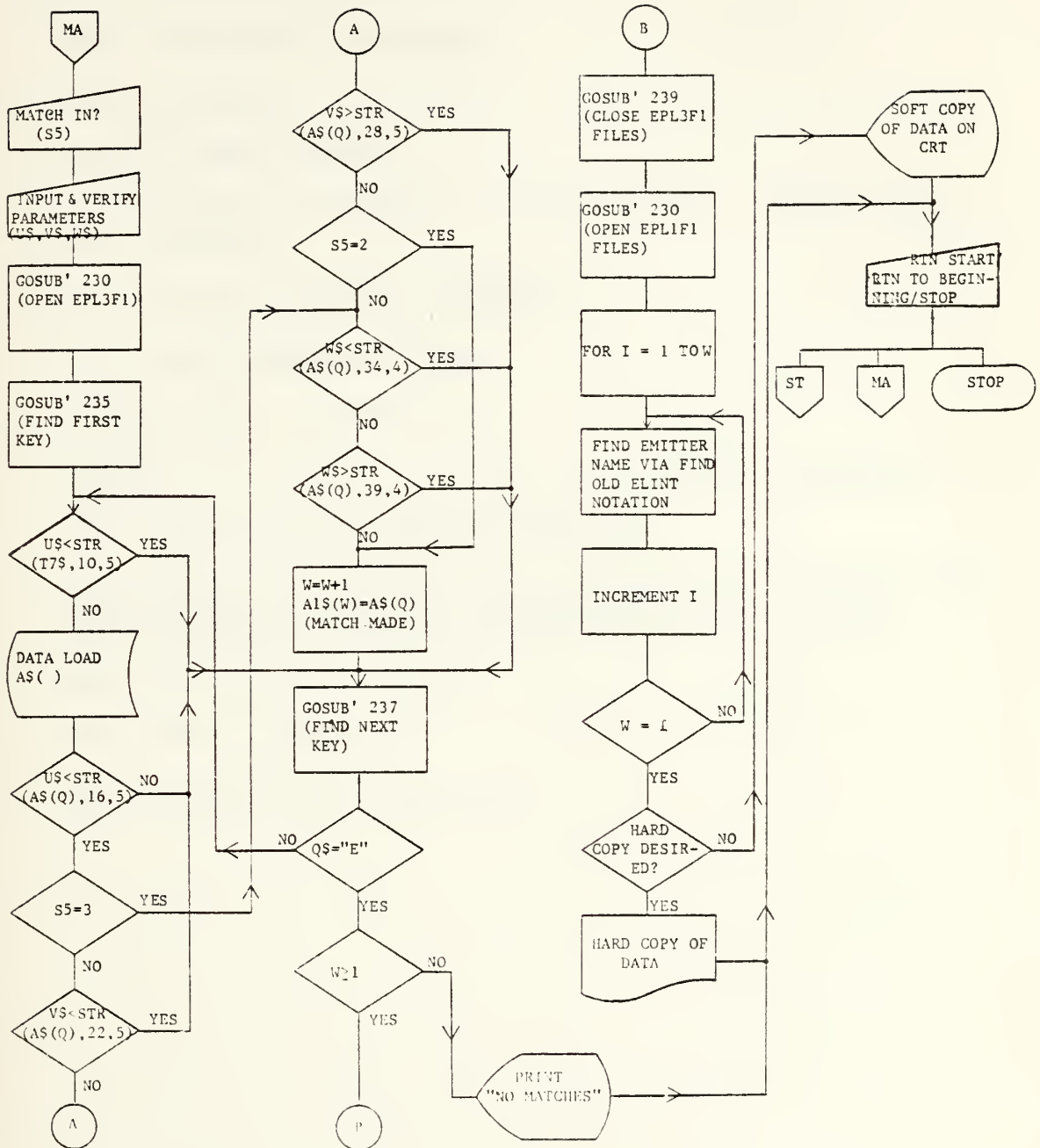
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1330 PRINT TAB(63):PRINT HEX(010A0A0909);:Q8=0: INIT(20)Q6$:
Q7$="0":Q6=0
1340 Q9$=" ":KEYIN Q9$,1350,1340:GOTO 1340
1350 IF Q9$=HEX(0D)THEN 1400:IF Q9$=HEX(08)THEN 1430:IF Q9$=
HEX(E5)THEN 1320:PRINT Q9$;:IF Q5=2THEN 1470:ON VAL(Q9$)-42
GOTO 1370,1360,1370,1380
1360 IF Q9$[HEX(30)THEN 1420:IF Q9$]HEX(39)THEN 1420:GOTO 13
90
1370 IF Q8[]0THEN 1420:Q6=1:GOTO 1390
1380 IF POS(Q6$=".")=0THEN 1390:IF POS(Q6$=".")[]Q8+1THEN 14
20
1390 Q8=Q8+1:STR(Q6$,Q8,1)=Q9$:GOTO 1340
1400 PRINT HEX(070D0A):PRINT TAB(63):IF Q5=2THEN 1480:IF Q8=
0THEN 1420:IF Q8]13THEN 1420:IF Q8]Q3+Q4THEN 1420:Q7=POS(Q6$
="."):IF Q7=0THEN 1410:IF Q7]Q3+Q6+1THEN 1420:IF Q8-Q7]Q4THE
N 1420
1410 CONVERT STR(Q6$,1,Q8)TO Q9:CONVERT Q$(1)TO Q6:CONVERT Q
$(2)TO Q7:IF Q9[Q6THEN 1420:IF Q9[=Q7THEN 1490
1420 PRINT HEX(07):PRINT HEX(010A0A0A);"INVALID. RE-ENTER":G
OTO 1320
1430 Q8=Q8-1:IF Q8[]0THEN 1420:STR(Q6$,Q8+1,1)=" ":IF Q8=Q3TH
EN 1460:IF Q8[=Q3+Q4THEN 1450
1440 PRINT HEX(082008);:GOTO 1340
1450 PRINT HEX(082D08);:GOTO 1340
1460 IF Q5[]1THEN 1440:PRINT HEX(082F08);:GOTO 1340
1470 IF Q9$[HEX(20)THEN 1420:IF Q9$]HEX(7F)THEN 1420:GOTO 13
90
1480 IF Q8]Q3THEN 1420:IF Q6$[Q$(1)THEN 1420:IF Q6$]Q$(2)THE
N 1420
1490 RETURN

```

MATCH

(DOES NOT INCLUDE THOSE USED BY KFAM)

D	INPUT VARIABLE TO CONTINUE AFTER REINSERTING PGM-S DISK
E	END OF PROGRAM OPTION VARIABLE
G	INPUT VARIABLE TO CONTINUE
I	INDEX VARIABLE
W	MATCHES MADE COUNTER
D1	COM VARIABLE FOR NUMBER OF DISK DRIVES. PASSED FROM START PROGRAM.
S5	VARIABLE FOR TYPE OF MATCHING
A\$	DATA LOAD RECEIVER ARRAY
Al\$	MATCHES MADE ACCUMULATOR
C\$	EITHER "Y" OR "N". IF "Y", A HARD COPY IS DESIRED
D\$	INPUT VERIFICATION STRING FUNCTION
P\$	ELINT NOTATION USED IN FIND OLD ROUTINE TO OBTAIN NAME INFORMATION FOR PRINTOUT WITH MATCHES MADE DATA.
U\$	FREQUENCY INPUT VARIABLE
V\$	PRF INPUT VARIABLE
W\$	PULSE WIDTH INPUT VARIABLE

EMITTER PARAMETER (LIST)

```

10 REM L EMIT DEVELOPED BY LT S.W.SMITH,USN, 2/12/79.
20 PRINT HEX(03):COM D1
30 PRINT "THIS PGM WILL LIST THE PARAMETERS OF ANY EMITTER S
ELECTED BY THE";TAB(2);"OPERATOR. SELECTION IS BY ELINT NOTA
TION OR NATO NICKNAME."
40 IF D1=1THEN 50:PRINT HEX(0A0A);TAB(3);"**ENSURE THE FPL D
ISK IS INSTALLED IN DRIVE NUMBER TWO**":GOTO 60
50 PRINT HEX(0A0A);TAB(3);"**ENSURE THE EPL DISK IS INSTALLE
D IN DRIVE NUMBER THREE**"
60 COM B$(4)62,B1$62,A$5,A1$12
70 GOTO 410
80RETURN
90COM V7$8,T0$7,V9,VO$(3)2,T1(3):COM VO$2,V1$8,V2$2,V3$2,V4$
2,V6$1:COM O2$2,Q3$2,V5$1,V8$1,T5$30,T7$30:COM T0,T9,T2$2,T4
$3,T2,V8,T8,T1,T8$1,T2$(8)2,T(8):COM T4,T5,V6,V7,V1
100COM Q,Q$1,T9$2,T0$(4)60
110COM T6$1,T3$3,T1$(1)2,T3$(1)33,V9$2,T1$30
120ADDC(V9$,VO$):DATA LOAD DA T#T1,(V9$,V9$)T9$,T0$():RETURN

130O2=99
140V9$=T2$:FOR T3=TOTO 1STEP -1:GOSUB 120:T2$(T3)=T9$:MAT SE
ARCHT0$()[1,V7],]STR(T1$,1,T4)TO T1$()STEP T5:T=VAL(STR(T1$(
1),2))-T5:IF T]0THEN 150:T=V1
150MAT COPY T0$()[T,T5]TO T3$():V9$=STR(T3$(1),T4+1,2):IF Q2
[99THEN 180
160T(T3)=T:NEXT T3:T7$=T1$:V=2:IF STR(T1$,1,T4)=STR(T3$(1),1
,T4)THEN 170:V=3
170RETURN
180MAT COPY T0$()[V1,1]TO T1$():IF T1$(1)=HEX(FF)THEN 190:Q2
=Q2+1:GOTO 160
190O2=0:GOTO 160
200T4=VAL(STR(V1$,5)):T5=T4+3:V6=VAL(STR(V1$,6)):V7=T5*V6:V1
=V7-T5+1:RETURN
210Q$=" ":IF T6[1THEN 390:IF T6=T9THEN 80
220GOTO 390
230DATA SAVE DA T$#T1,(VO$,V9$)Q2$,Q3$,V5$,V8$,VO$,V1$,V2$,V
3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETURN
240DATA LOAD DA T#T1(T9),(VO$(T9),V9$)Q2$,Q3$,V5$,V8$,VO$,V1
$,V2$,V3$,V6$,T2$,T0,T1,T2,V8,T4$,T5$,T7$,T2$(),T(),T8$:RETU
RN
250T6=VAL(T4$)*256+VAL(STR(T4$,2)):DBACKSPACE #T2,BEG :IF T6
=0THEN 260:DSKIP #T2,T6$
260Q=VAL(STR(T4$,3)):Q$,T8$=" ":RETURN
270DEFFN'232(T6,T7,T1$):GOSUB 210:IF Q$]" "THEN 80:GOSUB 130
:T4$=STR(T3$(1),T4+1,3):T8$="2":IF V[ ]2THEN 370:IF T4$]HEX(F
F)THEN 370:GOSUB 250:RETURN
280DEFFN'230(T6,T7,Q2,Q3,V7$):IF T6[1THEN 380:IF T6]3THEN 38
0:IF V9]0THEN 320:INIT(FF)VO$():INIT(00)T0$
290IF STR(T0$,T7+1,1)]HEX(00)THEN 380:IF STR(T0$,Q2+1,1)]HEX
(00)THEN 380:IF Q2=T7THEN 380
300DATA LOAD DC OPEN T#Q2,V7$:STR(V7$,5,1)="K":CONVERT Q3TO
STR(V7$,6,1),(#):LIMITS T#T7,V7$,T,V,T3:V=INT(T/256):BIN(VO$
)=V:BIN(STR(VO$,2))=T-256*V:T9=T6:VO$(T9)=VO$:T1(T9)=T7:GOSU
B 240:GOSUB 200:VO$=VO$(T9):T1=T7:T2=Q2
310STR(T0$,T7+1,1)=HEX(01):STR(T0$,Q2+1,1)=HEX(01):V9=V9+1:Q
$=" ":T8$="0":RETURN
320IF VO$(T6)]HEX(FF)THEN 380:IF T9=0THEN 290:GOSUB 230:T9=0
:GOTO 290
330DEFFN'239(T6):IF T9=0THEN 340:GOSUB 230:T9=0
340IF V9=0THEN 380:IF VO$(T6)]HEX(FF)THEN 380:T9=T6:GOSUB 24
0
350T9=0:INIT(FF)VO$(T6):STR(T0$,T1+1,1),STR(T0$,T2+1,1)=HEX(
00):V9=V9-1:Q$=" ":RETURN

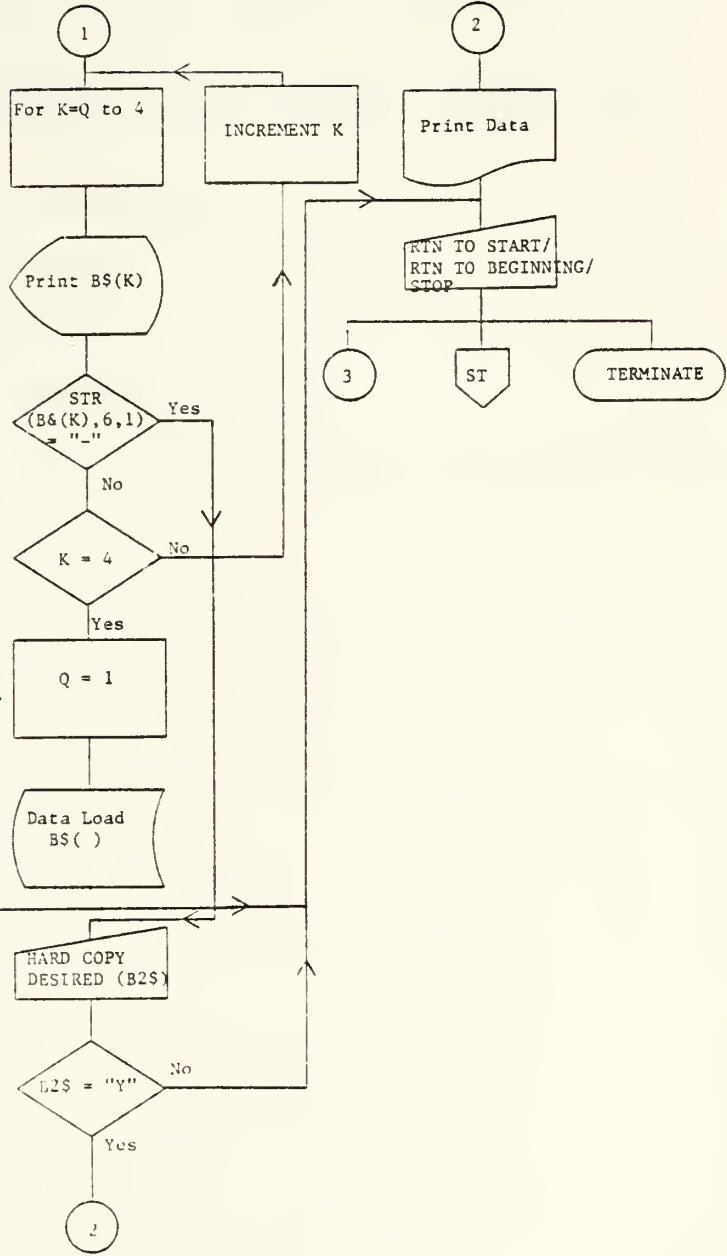
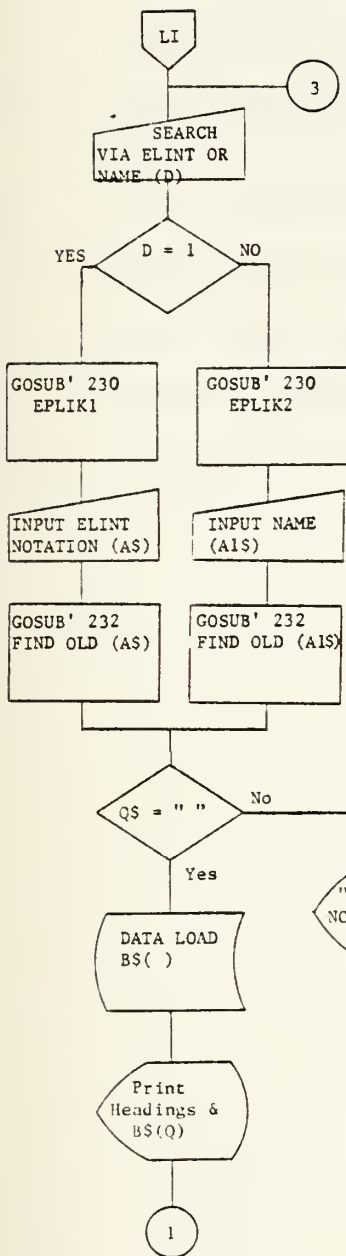
```



```

360T8$="N"
370Q$="N":RETURN
380T8$="X"
390Q$="X":RETURN
400%#
410 PRINT HEX(0A);TAB(3);"DO YOU WISH TO SEARCH VIA NATO NIC
KNAME OR ELINT NOTATION"
420 PRINT TAB(15);"1.ELINT"
430 PRINT TAB(15);"2.NAME"
440 INPUT D
450 IF D[3THEN 460:PRINT "INVALID.REENTER":GOTO 410
460 IF D1=1THEN 470:SELECT #1B10,#2B10:GOTO 480
470 SELECT #1350,#2350
480 GOSUB '230(1,1,2,D,"EPL1F1")
490 IF D=2THEN 770:INPUT "EMITTER ELINT NOTATION IS",A$
500 GOSUB '232(1,0,A$)
510 IF Q$[ ]" "THEN 750
520 DATA LOAD DC #2,B$( )
530 PRINT HEX(03):PRINTUSING 730:PRINT B$(Q):PRINTUSING 740
540 B1$=B$(Q):IF O=4THEN 590
550 FOR K=0 TO 4:IF B$(K)=B1$THEN 580:PRINT B$(K):IF STR(B$(
K),6,1)="-"THEN 600:I=I+1
560 IF I=8THEN 570:IF I=18THEN 570:IF I=28THEN 570:IF I=38TH
EN 570:GOTO 580
570 IF B2$="Y"THEN 580:INPUT "MORE TO SEE. DEPRESS EXEC TO C
ONTINUE",D
580 NEXT K
590 DATA LOAD DC #2 ,B$( ):Q=1:GOTO 550
600 IF B2$="Y"THEN 630
610 INPUT "DO YOU WANT A HARD COPY(Y OR N)",B2$
620 IF B2$="N"THEN 640:SELECT PRINT 215:IF D=2THEN 730:GOTO
500
630 SELECT PRINT 005:B2$="N"
640 I=0
650 PRINT HEX(0A);"DO YOU WISH TO:"
660 PRINT "      1.SEARCH FOR ANOTHER EMITTER"
670 PRINT "      2.STOP"
680 PRINT "      3.RETURN TO 'START'PROGRAM"
690 INPUT G
700 GOSUB '239(1):ON G GOTO 800,760,720
710 PRINT "INVALID.REENTER":GOTO 650
720 COM CLEAR :LOAD DC F"START"
730 %ELINT MC NATO NAME      FC  NTDS      COMMENTS
740 %ELINT MC  RFLO  RFHI PRFLO PRFHI PWLO PWHI MT SCTYP  SP
L SPU
750 SELECT PRINT 005:PRINT HEX(0A0A);TAB(10);"CHECK ENTRY. I
F IT'S CORRECT,THEN THE EMITTER":PRINT TAB(15);"IS NOT LOCAT
ED IN THE DATA FILE.":PRINT HEX(0A0A):GOTO 640
760 STOP
770 INPUT "EMITTER NAME IS",A1$
780 GOSUB '232(1,0,A1$)
790 GOTO 510
800 PRINT HEX(03):GOTO 410

```

EMITTER PARAMETER (LIST)

(DOES NOT INCLUDE THOSE USED BY KFAM)

D	SEARCH VIA ELINT NOTATION OR NATO NICKNAME VARIABLE
G	DESIRES AT END OF PROGRAM VARIABLE
I	INDEX VARIABLE
DL	COM VARIABLE FOR NUMBER OF DISK DRIVES. PASSED FROM START PROGRAM
A\$	ELINT NOTATION INPUT VARIABLE
Al\$	EMITTER NICKNAME VARIABLE
B\$	DATA LOAD RECEIVER ARRAY
B1\$	EMITTER PARAMETER INFORMATION ARRAY
B2\$	EITHER "Y" OR "N". IF "Y", A HARD COPY IS DESIRED.

EXCAP EA-6B LIST MANAGEMENT

```

10 REM DEVELOPED BY LT S.W.SMITH,USN, 2/12/79
20 PRINT HEX(03)
30 PRINT " THIS PGM WILL ASSIST THE EWO IN MANAGING THE EXC
AP SQUADRON'S":PRINT TAB(20);"ACQ AND CCI ASSIGNMENT LISTS"
40 DIM O$(2)64,Q5$64,Q7$1
50 DIM L$(49)58,A$5
60 PRINT HEX(0A0A0A)
70 PRINT TAB(10);"WHICH LIST SET DO YOU WANT TO WORK WITH"
80 PRINT TAB(27);"1.WAS":PRINT TAB(27);"2.LAND":PRINT TAB(27
);"3.ASMD":INPUT G
90 ON G GOTO 150,130,110
100 PRINT "INVALID.REENTER":GOTO 70
110 DATA LOAD DC OPEN F "ALISTS":DATA LOAD DC L$():REM ****
IF ERR 80 OCCURS, ENTER RUN 1220*****
120 GOTO 160
130 DATA LOAD DC OPEN F "LLISTS":DATA LOAD DC L$():REM *****
IF ERR 80 OCCURS, ENTER RUN 1220*****
140 GOTO 160
150 DATA LOAD DC OPEN F "WLISTS":DATA LOAD DC L$():REM *****
IF ERR 80 OCCURS, ENTER RUN 1220*****
160 INPUT "DO YOU DESIRE A LISTING OF THE PRESENT LISTS(Y OR
N)",D$
170 IF D$="N"THEN 260
180 GOSUB '100(L$,"N",1,G)
190 INPUT "DO YOU WANT A HARD COPY OF THE LISTS(Y OR N)",D$
200 IF D$="N"THEN 260:IF D$="Y"THEN 220
210 PRINT "INVALID.REENTER":GOTO 190
220 INPUT "HOW MANY COPIES ",C
230 SELECT PRINT 215
240 GOSUB '100 (L$,D$,C,G)
250 SELECT PRINT 005
260 PRINT HEX(030A0A0A):PRINT "DO YOU WANT TO : "
270 PRINT TAB(7);"1.ENTER ALL NEW LISTS":PRINT TAB(7);"2.CHA
NGE SOME OF THE LISTS":PRINT TAB(7);"3.CHANGE SELECTED PARAM
ETERS IN A SELECTED LIST"
280 PRINT TAB(7);"4.SAVE WHAT YOU HAVE DONE":PRINT TAB(7);"5
.LIST THE LISTS":PRINT TAB(7);"6.STOP":INPUT A
290 IF A[6THEN 300:PRINT "INVALID.REENTER":GOTO 260
300 ON A GOTO 330,580,610,860,180,310
310 INPUT "SAVE ANY THING???????(Y OR N)",D$
320 IF D$="Y"THEN 860:GOTO 940
330 INPUT "NUMBER OF LISTS TO BE ENTERED ([=40)",B
340 IF B[41THEN 350:PRINT "INVALID.REENTER":GOTO 330
350 INIT(" ")L$()
360 FOR I=1 TO B
370 IF I[=30 THEN 390
380 I=I+10
390 CONVERT I TO M$, (##)
400 STR(L$(I),1,2)=M$
410 GOSUB '200("55","10500",6,0,"ENTER FREQ LO",1,M$):CONVER
T O9 TO A$, (####):GOSUB '50(A$):STR(L$(I),4,5)=A$:IF A=3 TH
EN 630
420GOSUB '200("55","10500",6,0,"ENTER FREQ HI",1,M$):CONVERT
O9 TO A$, (####):GOSUB '50(A$):STR(L$(I),10,5)=A$:IF A=3THEN
630
430GOSUB '200("40","9999",5,0,"ENTER PRF 1 LO",1,M$):CONVERT
O9 TO A$, (####):GOSUB '50(A$):STR(L$(I),16,4)=A$:IF A=3THEN
630
440GOSUB '200("40","9999",5,0,"ENTER PRF 1 HI",1,M$):CONVERT
O9 TO A$, (####):GOSUB '50(A$):STR(L$(I),21,4)=A$:IF A=3THEN
630
450GOSUB '200("0000","9999",5,0,"ENTER PRF 2 LO",1,M$):CONVE
RT O9 TO A$, (####):GOSUB '50(A$):STR(L$(I),26,4)=A$:IF A=3TH
EN 630

```



```

460GOSUB '200("0000","9999",5,0,"ENTER PRF 2 HI",1,M$):CONVE
RT Q9 TO A$, (####):GOSUB '50(A$):STR(L$(I),31,4)=A$:IF A=3TH
EN 630
470GOSUB '200("00000","99999",6,0,"ENTER LTIFN",1,M$):CONVER
T Q9 TO A$, (####):STR(L$(I),36,5)=A$:IF A=3THEN 630
480GOSUB '200("00000","99999",6,0,"ENTER SPRI",1,M$):CONVERT
Q9 TO A$, (####):STR(L$(I),42,5)=A$:IF A=3THEN 630
490GOSUB '200("00000","99959",6,0,"ENTER TBKSF",1,M$):CONVER
T Q9 TO A$, (####):STR(L$(I),48,5)=A$:IF A=3THEN 630
500GOSUB '200("00000","11099",6,0,"ENTER TTMB",1,M$):CONVERT
Q9 TO A$, (####):STR(L$(I),54,5)=A$:IF A=3THEN 630
510 IF A=2THEN 590
520 IF I=30 THEN 550 :I=I-10
530 IF I=39 THEN 570
540 GOTO 560
550 IF I=30 THEN 380
560 NEXT I
570 GOTO 160
580 INPUT "WHICH LIST DO YOU WISH TO CHANGE (1 TO 30,41 TO 4
9)",I:GOTO 390
590 INPUT "DO YOU WISH TO CHANGE ANOTHER LIST(Y OR N)",D$
600 IF D$="Y"THEN 580:GOTO 160
610 PRINT HEX(03):INPUT "WHICH LIST DO YOU WISH TO WORK WITH
(1 TO 30,41 TO 49)",I
620 CONVERT I TO M$, (##):STR(L$(I),1,2)=M$
630 PRINTUSING 830:PRINTUSING 840:PRINT L$(I)
640 PRINT "WHICH PARAMETER DO YOU WISH TO CHANGE":PRINT TAB(
10);"1.RF LOW":PRINT TAB(10);"2.RF HIGH":PRINT TAB(10);"3.PR
F 1 LOW"
650 PRINT TAB(10);"4.PRF 1 HIGH":PRINT TAB(10);"5.PRF 2 LOW"
:PRINT TAB(10);"6.PRF 2 HIGH":PRINT TAB(10);"7.LTIFN":PRINT
TAB(10);"8.SPRI"
660 PRINT TAB(10);"9.TBKSF":PRINT TAB(10);"10.TTMB":PRINT TA
B(10);"11.NO OTHERS":INPUT D2
670 ON D2 GOTO 410,420,430,440,450,460,470,480,490,500,260
680 DEFFN'100(L$,D$,C,G)
690 PRINT HEX(03)
700 ON G GOTO 720,730
710 PRINT "ASMD LISTS":GOTO 750
720 PRINT "WAS LISTS":GOTO 750
730 PRINT "LAND LISTS"
740 PRINT HEX(03)
750 FOR J=1 TO C
760 PRINTUSING 830:PRINTUSING 840
770 FOR H=1 TO 49:PRINT L$(H):IF D$="Y"THEN 810
780 IF H=10 THEN 800:IF H=20 THEN 800:IF H=30 THEN 800
790 GOTO 820
800 PRINT "TO CONTINUE DEPRESS EXEC":INPUT D
810 IF D$="N"THEN 820:IF H[ ]25 THEN 820:PRINT HEX(0A0A0A0A):P
RINTUSING 830:PRINTUSING 840
820 NEXT H:PRINT HEX(0C):NEXT J
830 %LN FREQ FREQ PRF PRF PRF PRF LTIFN SPRI TBKSF TT
MB
840 % LO HI 1 LO 1 HI 2 LO 2 HI
850 RETURN
860 ON G GOTO 890,910
870 SCRATCH F "ALISTS" :DATA SAVE DC OPEN F "ALISTS","ALIS
TS"
880 DATA SAVE DC L$( ) :GOTO 930
890 SCRATCH F "WLISTS" :DATA SAVE DC OPEN F "WLISTS","WLIST
S"
900 DATA SAVE DC L$( ) :GOTO 930

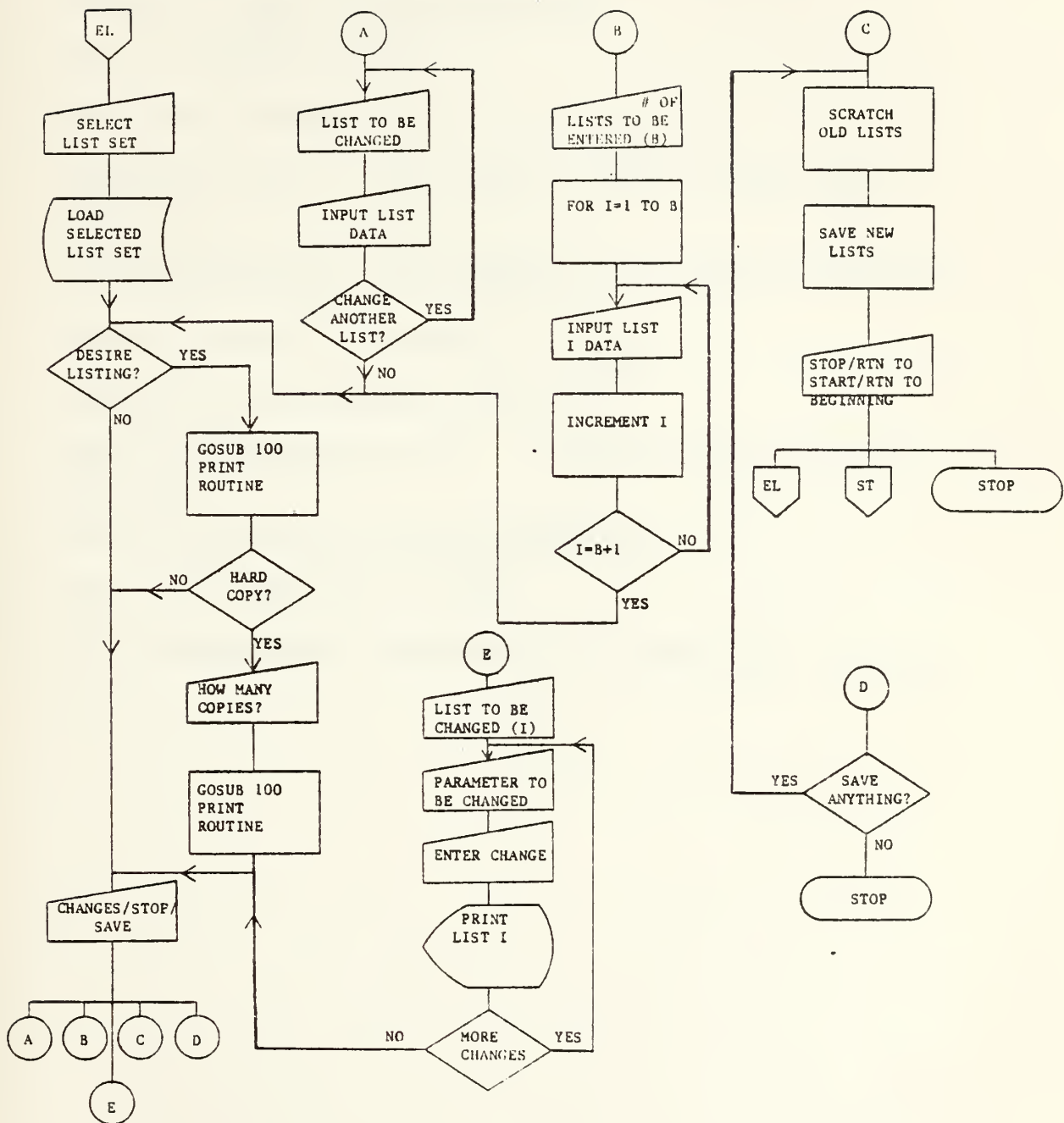
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```

910 SCRATCH F "LLISTS":DATA SAVE DC OPEN F"LLISTS","LLISTS"
920 DATA SAVE DC L$( )
930 DATA SAVE DC END :DATA SAVE DC CLOSE
940 PRINT HEX(030A0A0A0A):PRINT "DO YOU WANT TO:":PRINT TAB(
7);"1.STOP":PRINT TAB(7);"2.RETURN TO 'START' PROGRAM":PRINT
TAB(7);"3.RETURN TO THE BEGINNING OF THIS PROGRAM":INPUT E
950 ON E GOTO 980,970,990
960 PRINT "INVALID.REENTER":GOTO 940
970 LOAD DC F "START"
980 STOP
990 PRINT HEX(030A0A0A0A):GOTO 60
1000 DEFFN'200(Q$(1),Q$(2),Q3,Q4,Q5$,Q5,M$)
1010 SELECT PRINT 005(64):PRINT HEX(03);"LIST #=";M$:PRINT H
EX(010A);Q5$;TAB(63):PRINT "?";:FOR Q3=1TO Q3:PRINT "-";: NE
XT Q8: IF Q5=2THEN 1020:PRINT "/";:IF Q4=0THEN 1020:FOR Q8=1
TO Q4:PRINT "-";:NEXT Q8
1020 PRINT TAB(63):PRINT HEX(010A0A0909);:Q8=0: INIT(20)Q6$:
Q7$="0":Q6=0
1030 Q9$=" ":KEYIN Q9$,1040,1030:GOTO 1030
1040 IF Q9$=HEX(0D)THEN 1090:IF Q9$=HEX(08)THEN 1120:IF Q9$=
HEX(E5)THEN 1010:PRINT Q9$;:IF Q5=2THEN 1160:ON VAL(Q9$)-42
GOTO 1060,1050,1060,1070
1050 IF Q9$[HEX(30)THEN 1110:IF Q9$]HEX(39)THEN 1110:GOTO 10
80
1060 IF Q8[10THEN 1110:Q6=1:GOTO 1030
1070 IF POS(Q6$=".")=0THEN 1080:IF POS(Q6$=".")[]Q8+1THEN 11
10
1080 Q8=Q8+1:STR(Q6$,Q8,1)=Q9$:GOTO 1030
1090 PRINT HEX(0D0A):PRINT TAB(63):IF Q5=2THEN 1170:IF Q8=0T
HEN 1110:IF Q8]13THEN 1110:IF Q8]Q3+Q4THEN 1110:Q7=POS(Q6$="
."):IF Q7=0THEN 1100:IF Q7]Q3+Q6+1THEN 1110:IF Q8-Q7]Q4THEN
1110
1100 CONVERT STR(Q6$,1,Q8)TO Q9:CONVERT Q$(1)TO Q6:CONVERT Q
$(2)TO Q7:IF Q9[Q6THEN 1110:IF Q9[=Q7THEN 1130
1110 PRINT HEX(07):PRINT HEX(010A0A0A0A);"INVALID. RE-ENTER":G
OTO 1010
1120 Q3=Q8-1:IF Q8[0THEN 1110:STR(Q6$,Q8+1,1)=" ":IF Q8=Q3TH
EN 1150:IF Q8[=Q3+Q4THEN 1140
1130 PRINT HEX(082003);:GOTO 1030
1140 PRINT HEX(082D08);:GOTO 1030
1150 IF Q5[]1THEN 1130:PRINT HEX(082F08);:GOTO 1030
1160 IF Q9$[HEX(20)THEN 1110:IF Q9$]HEX(7F)THEN 1110:GOTO 10
80
1170 IF Q8]Q3THEN 1110:IF Q6$[Q$(1)THEN 1110:IF Q6$]Q$(2)THE
N 1110
1180 RETURN
1190 DEFFN'50(A$)
1200 FOR J=1TO 3:IF STR(A$,J,1)[]"0" THEN 1210:STR(A$,J,1)="
":NEXT J
1210 RETURN
1220 INIT(" ")L$( )
1230 DATA SAVE DC OPEN F15,"WLISTS":DATA SAVE DC L$( )
1240 DATA SAVE DC OPEN F15,"ALISTS":DATA SAVE DC L$( )
1250 DATA SAVE DC OPEN F15,"LLISTS":DATA SAVE DC L$( )
1260 GOTO 70

```

EXCAP EA-6B MANAGEMENT

(DOES NOT INCLUDE THOSE USED BY DEFFN'200)

A	OPERATOR OPTION VARIABLE FOR CHANGING LIST PARAMETERS/ SAVING NEW LISTS/STOP
B	NUMBER OF LISTS TO BE ENTERED
C	NUMBER OF HARD COPIES TO BE MADE
E	END OF PROGRAM OPTION
G	WHICH SET OF LISTS ARE TO BE WORKED WITH
H	INDEX VARIABLE TO STEP THROUGH LISTS DURING PRINT ROUTINE
I	INDEX VARIABLE TO STEP THROUGH LISTS DURING PARAMETER INPUT/LIST NUMBER TO BE CHANGED
J	INDEX VARIABLE FOR HARDCOPY PRINTOUT
D2	PARAMETER TO BE CHANGED IN LIST I
A\$	DEFIN'50 PASSING VARIABLE. PARAMETER INPUT RECEIVER VARIABLE.
D\$	INPUT VARIABLE FOR YES/NO QUESTIONS
L\$	DATA LOAD RECEIVING VARIABLE
M\$	LIST NUMBER AFTER CONVERSION TO ALPHANUMERIC VARIABLE

ICAP EA-6B LIST MANAGEMENT

```

10 REM DEVELOPED BY LT S.W.SMITH,USN, 2/12/79
20 PRINT HEX(03)
30 PRINT " THIS PGM WILL ASSIST THE EWO IN MANAGING THE ICA
P SQUADRON'S":PRINT TAB(17);"ACQ AND PA ASSIGNMENT LISTS"
40 DIM QS(2)64,Q5$64,Q7$1
50 DIM L$(50)64,A$8
60 PRINT HEX(0A0A0A)
70 PRINT TAB(10);"WHICH LIST SET DO YOU WANT TO WORK WITH"
80 PRINT TAB(27);"1.WAS":PRINT TAB(27);"2.LAND":PRINT TAB(27
);"3.ASMD"
90 INPUT G:ON G GOTO 150,130,110
100 PRINT "INVALID.REENTER":GOTO 70
110 DATA LOAD DC OPEN F "ALISTS":DATA LOAD DC L$():REM ****
IF ERR 80 OCCURS, ENTER RUN 1190*****
120 GOTO 160
130 DATA LOAD DC OPEN F "LLISTS":DATA LOAD DC L$():REM *****
IF ERR 80 OCCURS, ENTER RUN 1190*****
140 GOTO 160
150 DATA LOAD DC OPEN F "WLISTS":DATA LOAD DC L$():REM *****
IF ERR 80 OCCURS, ENTER RUN 1190*****
160 INPUT "DO YOU DESIRE A LISTING OF THE PRESENT LISTS(Y OR
N)",D$
170 IF D$="N"THEN 260
180 GOSUB '100(L$,"N",1,G)
190 INPUT "DO YOU WANT A HARD COPY OF THE LISTS(Y OR N) ",D$

200 IF D$="N"THEN 260:IF D$="Y"THEN 220
210 PRINT "INVALID.REENTER":GOTO 190
220 INPUT "HOW MANY COPIES ",C
230 SELECT PRINT 215
240 GOSUB '100 (L$,D$,C,G)
250 SELECT PRINT 005
260 PRINT HEX(030A0A0A):PRINT "DO YOU WANT TO : "
270 PRINT TAB(7);"1.ENTER ALL NEW LISTS":PRINT TAB(7);"2.CHA
NGE SOME OF THE LISTS":PRINT TAB(7);"3.CHANGE SELECTED PARAM
ETERS IN A SELECTED LIST"
280 PRINT TAB(7);"4.SAVE WHAT YOU HAVE DONE":PRINT TAB(7);"5
.LIST THE LISTS":PRINT TAB(7);"6.STOP":INPUT A
290 IF A[7THEN 300:PRINT "INVALID.REENTER":GOTO 260
300 ON A GOTO 330,550,580,830,180,310
310 INPUT "SAVE ANY THING????????(Y OR N)",D$
320 IF D$="Y"THEN 830:GOTO 910
330 INPUT "NUMBER OF LISTS TO BE ENTERED ([=50)",B
340 IF B[41THEN 350:PRINT "INVALID.REENTER":GOTO 330
350 INIT(" ")L$()
360 FOR I=1 TO B
370 CONVERT I TO M$, (##)
380 STR(L$(I),1,2)=M$
390 GOSUB '200("001","110",4,0,"ENTER FTP",2,M$):STR(L$(I),4
,3)=Q6$:IF A=3 THEN 600
400 GOSUB '200("55","10500",6,0,"ENTER FREQ LO",1,M$):CONVER
T Q9 TO A$, (####):GOSUB '50(A$):STR(L$(I),8,5)=A$:IF A=3 TH
EN 600
410GOSUB '200("55","10500",6,0,"ENTER FREQ HI",1,M$):CONVERT
Q9 TO A$, (####):GOSUB '50(A$):STR(L$(I),14,5)=A$:IF A=3THEN
600
420GOSUB '200(" 40","9999",5,0,"ENTER PRF 1 LO",2,M$):STR(L
$(I),20,4)=A$:IF A=3THEN 600
430GOSUB '200(" 40","S9999",6,0,"ENTER PPF 1 HI",2,M$):STR
(L$(I),24,5)=Q6$:IF A=3THEN 600
440GOSUB '200(" 40","9999",5,0,"ENTER PRF 2 LO",2,M$):STR(L
$(I),29,4)=A$:IF A=3THEN 600

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```

450GOSUB '200("    40","S9999",6,0,"ENTER PRF 2 HI",2,M$):STR
(L$(I),33,5)=06$:IF A=3THEN 600
460GOSUB '200("00000000","76543210",9,0,"ENTER SITE",1,M$):C
ONVERT Q9TO A$,(#####):STR(L$(I),39,8)=A$:IF A=3THEN 600
470GOSUB '200("00","31",3,0,"ENTER SYM",1,M$):CONVERT Q9 TO
A$,(##):STR(L$(I),48,2)=A$:IF A=3THEN 600
480GOSUB '200("000","799",4,0,"ENTER PRI",1,M$):CONVERT Q9TO
A$,(###):STR(L$(I),51,3)=A$:IF A=3THEN 600
490GOSUB '200("1","5",2,0,"ENTER S",1,M$):CONVERT Q9 TO A$,(
#):STR(L$(I),55,1)=A$:IF A=3THEN 600
500GOSUB '200("111","465",4,0,"ENTER FT",1,M$):CONVERT Q9 TO
A$,(###):STR(L$(I),57,3)=A$:IF A=3THEN 600
510GOSUB '200("1111","9995",5,0,"ENTER TBK",1,M$):CONVERT Q9
TO A$,(####):STR(L$(I),61,4)=A$:IF A=3THEN 600
520 IF A=2THEN 560
530 NEXT I
540 GOTO 160
550 INPUT "WHICH LIST DO YOU WISH TO CHANGE (1 TO 50)",I:GOT
O 370
560 INPUT "DO YOU WISH TO CHANGE ANOTHER LIST(Y OR N)",D$
570 IF D$="Y"THEN 550:GOTO 160
580 PRINT HEX(03):INPUT "WHICH LIST DO YOU WISH TO WORK WITH
(1 TO 50)",I
590 CONVERT I TO M$,(##):STR(L$(I),1,2)=M$
600 PRINTUSING 800:PRINTUSING 810:PRINT L$(I)
610 PRINT "WHICH PARAMETER DO YOU WISH TO CHANGE":PRINT TAB(
10);"1.FTP";TAB(31);"2.RF LOW":PRINT TAB(10);"3.RF HIGH";TAB
(31);"4.PRF 1 LOW"
620 PRINT TAB(10);"5.PRF 1 HIGH";TAB(31);"6.PRF 2 LOW":PRINT
TAB(10);"7.PRF 2 HIGH";TAB(31);"8.SITE":PRINT TAB(10);"9.SYM
";TAB(31);"10.PRI"
630 PRINT TAB(10);"11.S";TAB(31);"12.FT":PRINT TAB(10);"13.T
BK";TAB(31);"14.NO OTHERS":INPUT D2
640 ON D2 GOTO 390,400,410,420,430,440,450,460,470,480,490,5
00,510,260
650 DEFFN'100(L$,D$,C,G)
660 PRINT HEX(03)
670 ON G GOTO 690,700
680 PRINT "ASMD LISTS":GOTO 720
690 PRINT "WAS LISTS":GOTO 720
700 PRINT "LAND LISTS"
710 PRINT HEX(03)
720 FOR J=1TO C
730 PRINTUSING 800:PRINTUSING 810
740 FOR H=1 TO 50:PRINT L$(H):IF D$="Y"THEN 780
750 IF H=10 THEN 770:IF H=20THEN 770:IF H=30THEN 770:IF H=40
THEN 770
760 GOTO 790
770 PRINT "TO CONTINUE DEPRESS EXEC":INPUT D
780 IF D$="N"THEN 790:IF H[]25THEN 790:PRINT HEX(0A0A0A0A0A)
:PRINTUSING 800:PRINTUSING 810
790 NEXT H:PRINT HEX(0C): NEXT J
800 %LN FTP FREQ FREQ PRF PRF PRF PRF SITE SM PRI S
FT TBK
810 % LO HI 1LO 1 HI 2LO 2 HI
820 RETURN
830 ON G GOTO 860,880
840 SCRATCH F "ALISTS" :DATA SAVE DC OPEN F "ALISTS","ALIS
TS"
850 DATA SAVE DC L$( ) :GOTO 900
860 SCRATCH F "WLISTS" :DATA SAVE DC OPEN F "WLISTS","WLIST
S"
870 DATA SAVE DC L$( ) :GOTO 900

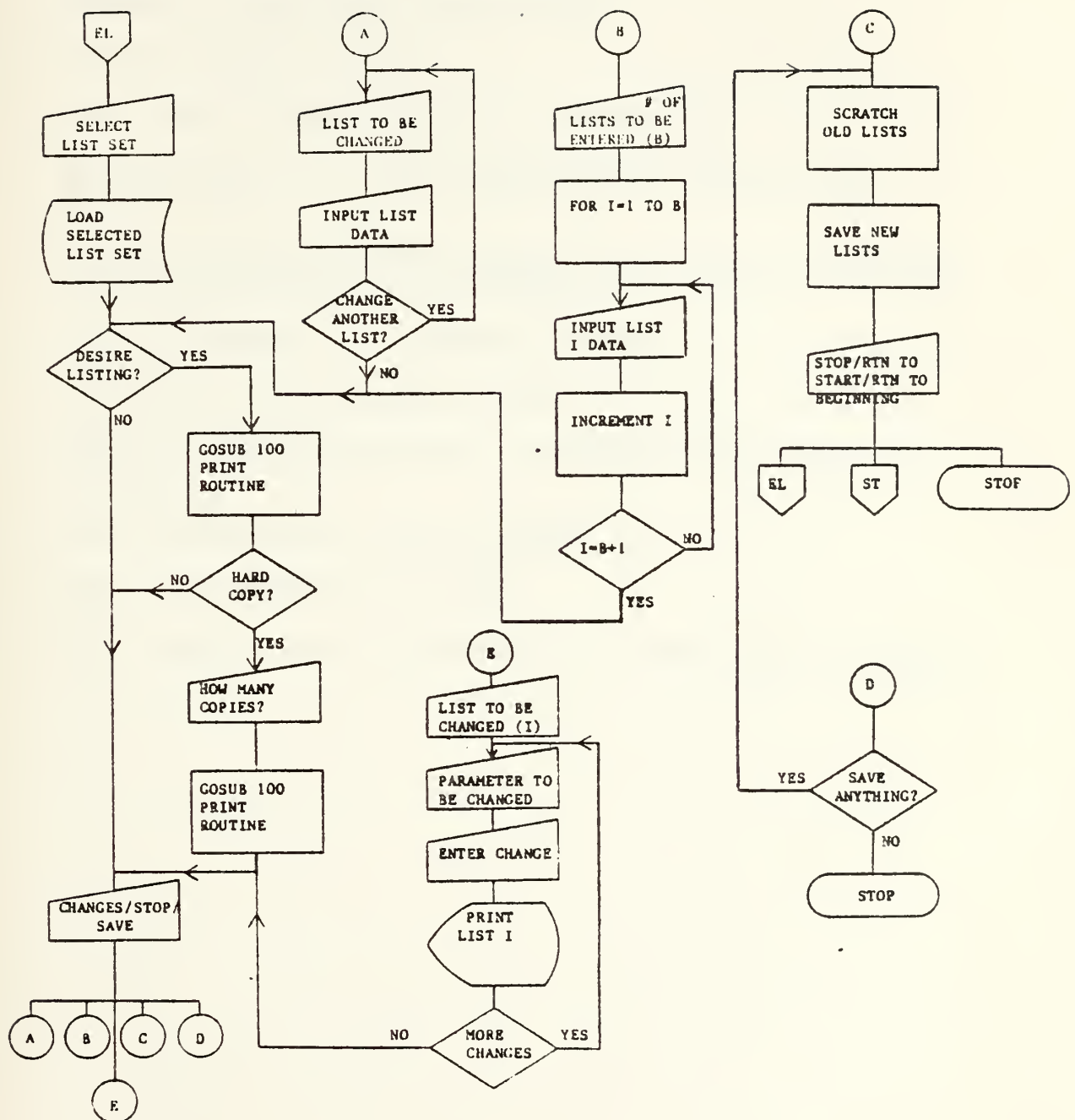
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880 SCRATCH F "LLISTS":DATA SAVE DC OPEN F"LLISTS","LLISTS"
890 DATA SAVE DC L$( )
900 DATA SAVE DC END :DATA SAVE DC CLOSE
910 PRINT HEX(030A0A0A0A):PRINT "DO YOU WANT TO:":PRINT TAB(
7);"1.STOP":PRINT TAB(7);"2.RETURN TO 'START' PROGRAM":PRINT
TAB(7);"3.RETURN TO THE BEGINNING OF THIS PROGRAM":INPUT E
920 ON E GOTO 950,940,960
930 PRINT "INVALID.REENTER":GOTO 910
940 LOAD DC F "START"
950 STOP
960 PRINT HEX(030A0A0A0A):GOTO 60
970 DEFFN'200(Q$(1),Q$(2),Q3,Q4,Q5$,Q5,MS)
980 SELECT PRINT 005(64):PRINT HEX(03);"LIST #=";M$:PRINT HE
X(010A);Q5$;TAB(63):PRINT "?";:FOR Q8=1TO Q3:PRINT "-";:NEX
T Q8: IF Q5=2THEN 990:PRINT "/";:IF Q4=0THEN 990:FOR Q8=1TO
Q4:PRINT "-";:NEXT Q8
990 PRINT TAB(63):PRINT HEX(010A0A0909);:Q8=0: INIT(20)Q6$:Q
7$="0":Q6=0
1000 Q9$=" ":KEYIN Q9$,1010,1000:GOTO 1000
1010 IF Q9$=HEX(0D)THEN 1060:IF Q9$=HEX(08)THEN 1090:IF Q9$=
HEX(E5)THEN 980:PRINT Q9$;:IF Q5=2THEN 1130:ON VAL(Q9$)-42 G
OTO 1030,1020,1030,1040
1020 IF Q9$[HEX(30)THEN 1080:IF Q9$]HEX(39)THEN 1080:GOTO 10
50
1030 IF Q8[]0THEN 1080:Q6=1:GOTO 1050
1040 IF POS(Q6$="." )=0THEN 1050:IF POS(Q6$="." )[]Q8+1THEN 10
80
1050 Q8=Q8+1:STR(Q6$,Q8,1)=Q9$:GOTO 1000
1060 PRINT HEX(0D0A):PRINT TAB(63):IF Q5=2THEN 1140:IF Q8=0T
HEN 1080:IF Q8]13THEN 1080:IF Q8]Q3+Q4THEN 1080:Q7=POS(Q6$="
." ):IF Q7=0THEN 1070:IF Q7]Q3+Q6+1THEN 1080:IF Q8-Q7]Q4THEN
1080
1070 CONVERT STR(Q6$,1,Q8)TO Q9:CONVERT Q$(1)TO Q6:CONVERT Q
$(2)TO Q7:IF Q9[Q6THEN 1080:IF Q9[=Q7THEN 1150
1080 PRINT HEX(07):PRINT HEX(010A0A0A0A);"INVALID. RE-ENTER":G
OTO 980
1090 Q8=Q8-1:IF Q8[0THEN 1080:STR(Q6$,Q8+1,1)=" ":IF Q8=Q3TH
EN 1120:IF Q8[=Q3+Q4THEN 1110
1100 PRINT HEX(082008);:GOTO 1000
1110 PRINT HEX(082D08);:GOTO 1000
1120 IF Q5[]1THEN 1100:PRINT HEX(082F08);:GOTO 1000
1130 IF Q9$[HEX(20)THEN 1080:IF Q9$]HEX(7F)THEN 1080:GOTO 10
50
1140 IF Q8]Q3THEN 1080:IF Q6$[Q$(1)THEN 1080:IF Q6$]Q$(2)THE
N 1080
1150 RETURN
1160 DEFFN'50(A$)
1170 FOR J=1TO 3:IF STR(A$,J,1)[]"0" THEN 1180:STR(A$,J,1)="
":NEXT J
1180 RETURN
1190 INIT(" ")L$( )
1200 DATA SAVE DC OPEN F30,"WLISTS":DATA SAVE DC L$( )
1210 DATA SAVE DC OPEN F30,"ALISTS":DATA SAVE DC L$( )
1220 DATA SAVE DC OPEN F30,"LLISTS":DATA SAVE DC L$( )
1230 GOTO 70

```

ICAP EA-6B LIST MANAGEMENT

(DOES NOT INCLUDE THOSE USED BY DEFFN'200)

A	OPERATOR OPTION VARIABLE FOR CHANGING LIST PARAMETERS/ SAVING NEW LISTS/STOP
B	NUMBER OF LISTS TO BE ENTERED
C	NUMBER OF HARD COPIES TO BE MADE
E	END OF PROGRAM OPTION
G	WHICH SET OF LISTS ARE TO BE WORKED WITH
H	INDEX VARIABLE TO STEP THROUGH LISTS DURING PRINT ROUTINE
I	INDEX VARIABLE TO STEP THROUGH LISTS DURING PARAMETER INPUT/LIST NUMBER TO BE CHANGED
J	INDEX VARIABLE FOR HARDCOPY PRINTOUT
D2	PARAMETER TO BE CHANGED IN LIST I
A\$	DEFIN'50 PASSING VARIABLE. PARAMETER INPUT RECEIVER VARIABLE.
D\$	INPUT VARIABLE FOR YES/NO QUESTIONS
L\$	DATA LOAD RECEIVING VARIABLE
M\$	LIST NUMBER I AFTER CONVERSION TO ALPHANUMERIC VARIABLE

HULTEC

```

10 REM DEVELOPED BY LT S.W.SMITH,USN, 3/12/79
20 PRINT HEX(030A0A):PRINT TAB(15);"THIS PGM PROVIDES A CONV
IENT MEANS OF":PRINT TAB(15);"MAINTAINING AN UP TO DATE HULT
EC FILE"
30 DIM A$(50)64,W$(50)2,L$(50)2,B$(50)64,C$(1)10
40 DATA LOAD DC OPEN F"DATE":DATA LOAD DC C$():DATA LOAD DC
OPEN F"HUL":DATA LOAD DC A$():REM *****IF YOU GET ERR 80, EN
TER RUN 800*****
50 PRINT HEX(0A0A0A0A);TAB(10);"DO YOU WISH TO LOOK AT THE E
NTIRE FILE AT THIS TIME? Y OR N"
60 INPUT D$:IF D$="N"THEN 130
70 PRINT "DATE OF DATA IS ";C$(1)
80 PRINTUSING 310
90 FOR I=1TO 50:PRINT A$(I):IF I=10 THEN 110:IF I=20 THEN 11
0:IF I=30 THEN 110:IF I=40 THEN 110:IF I=50 THEN 120
100 NEXT I
110 PRINT HEX(0A0A):INPUT "MORE TO SEE. DEPRESS EXEC TO CONT
",D:GOTO 100
120 INPUT "NO MORE TO SEE. DEPRESS EXEC TO CONTINUE PGM",D
130 PRINT "DO YOU WISH TO:"
140 PRINT TAB(10);"1.CHANGE AN ENTRY":PRINT TAB(10);"2.OBTAI
N A HARD COPY OF THE CURRENT FILES":PRINT TAB(10);"3.SAVE WH
AT YOU HAVE DONE":PRINT TAB(10);"4.LIST THE FILES"
150 PRINT TAB(10);"5.SEARCH FOR A PARTICULAR PLATFORM":PRINT
TAB(10);"6.SEARCH FOR A PARTICULAR EMITTER":PRINT TAB(10);"7
.RETURN TO THE 'START' PROGRAM":PRINT TAB(10);"8.STOP"
160 INPUT E:ON E GOTO 170,320,370,90,500,840,940,500
170 INPUT "WHICH LINE DO YOU WISH TO CHANGE",B:CONVERT BTO S
TR(A$(B),63,2),(#)
180 PRINT "DO YOU WISH TO CHANGE":PRINT TAB(10);"1.ALL VALUE
S":PRINT TAB(10);"2.SELECTED VALUES":INPUT F
190 IF F=2THEN 460
200 PRINT HEX(03)
210 GOSUB '243("ENTER RF ",5):GOSUB '50(Q6$):STR(A$(B),1,5)=
Q6$:IF F=2THEN 460
220 GOSUB '243("PRF",4):GOSUB '50(Q6$):STR(A$(B),7,4)=Q6$:IF
F=2THEN 460
230 GOSUB '243("PRI 1",9):GOSUB '50(Q6$):STR(A$(B),12,9)=Q6$
:IF F=2THEN 460
240 GOSUB '243("PRI 2",9):GOSUB '50(Q6$):STR(A$(B),22,9)=Q6$
:IF F=2THEN 460
250 GOSUB '243("PW",4):GOSUB '50(Q6$):STR(A$(B),32,4)=Q6$:IF
F=2THEN 460
260 GOSUB '243("SCAN PERIOD",4):GOSUB '50(Q6$):STR(A$(B),37,
4)=Q6$:IF F=2THEN 460
270 GOSUB '243("PLATFORM'S NAME",8):STR(A$(B),42,8)=Q6$:IF F
=2THEN 460
280 GOSUB '243("EMITTER'S NAME",6):STR(A$(B),51,6)=Q6$:IF F=
2THEN 460
290 GOSUB '243("NTDS KEY NUMBER",4):GOSUB '50(Q6$):STR(A$(B)
,58,4)=Q6$:IF F=2THEN 460
300 PRINTUSING 310:PRINT A$(B):PRINT HEX(0A0A0A):GOTO 130
310% RF PRF PRI 1 PRI 2 PW SPD PLAT RADAR
KEY LN
320 INPUT "PRINTER ON AND SELECTED? DEPRESS EXEC TO CONT",D
330 INPUT "NUMBER OF COPIES",C1
340 FOR I=1TO C1
350 SELECT PRINT 215:PRINTUSING 310:MAT PRINT A$:PRINT HEX(0
A0A0A0A):NEXT I
360 SELECT PRINT 005:GOTO 130
370 INPUT "TODAY'S DATE IS",C$(1)

```



```

380 SCRATCH F"DATE":DATA SAVE DC OPEN F"DATE","DATE":DATA SA
VE DC C$( )
390 SCRATCH F"HUL":DATA SAVE DC OPEN F"HUL","HUL"
400 MAT SORT A$( ) TO W$( ), L$( )
410 MAT MOVE A$( ), L$(1) TO B$(1)
420 FOR I=1 TO 50: CONVERT I TO I$, (##): STR(B$(I), 63, 2)=I$: NE
XT I
430 MAT COPY B$( ) TO A$( )
440 DATA SAVE DC A$( )
450 GOTO 130
460 PRINT HEX(03): PRINT USING 310: PRINT A$(B): PRINT "WHICH V
ALUE DO YOU WISH TO CHANGE? SELECT ONE"
470 PRINT TAB(10); "1.RF": PRINT TAB(10); "2.PRF": PRINT TAB(10)
; "3.PRI 1": PRINT TAB(10); "4.PRI 2": PRINT TAB(10); "5.PW": PRIN
T TAB(10); "6.SCAN PERIOD": PRINT TAB(10); "7.PLATFORM'S NAME"
480 PRINT TAB(10); "8.EMITTER'S NAME": PRINT TAB(10); "9.NTDS KE
Y NUMBER": PRINT TAB(10); "10.NO OTHERS": INPUT G
490 PRINT HEX(03): ON G GOTO 210, 220, 230, 240, 250, 260, 270, 280
, 290, 130
500 PRINT HEX(03): GOSUB '243("INPUT PLATFORM'S NAME", 8): PRIN
T HEX(03)
510 PRINT USING 310
520 FOR I=1 TO 50: IF STR(A$(I), 42, 8)[ ] Q6$ THEN 540: PRINT A$(I)

530 C=C+1: B$(C)=A$(I)
540 NEXT I: IF C<10 THEN 550: PRINT "NO PLATFORMS WITH THAT NAME
": PRINT HEX(0A0A0A): GOTO 130
550 PRINT HEX(0A0A): INPUT "HARD COPY DESIRED (Y OR N)", D$: IF
D$="N" THEN 130
560 INPUT "HOW MANY COPIES", C1: SELECT PRINT 215
570 FOR I=1 TO C1: PRINT USING 310: FOR J=1 TO C: PRINT B$(J): NEX
T J: PRINT HEX(0A0A0A0A): NEXT I
580 SELECT PRINT 005: GOTO 130
590 STOP
600 DEFFN '242(W0, Q6$): SELECT PRINT 005: IF W0[=0 THEN 610: INIT(
Q6$) Q6$: PRINT STR(Q6$, 1, W0-INT((W0-1)/63)*63); : W0=W0-(W0-INT
((W0-1)/63)*63): GOTO 600
610 RETURN
620 DEFFN '243(Q6$, Q0): GOSUB 660
630 SELECT CO 205: Q6$=" ": INPUT Q6$: IF Q0=0 THEN 700: IF LEN(Q6
$)[=Q0 THEN 700: GOSUB '255
640 DEFFN '244(Q0): GOSUB 680: GOSUB 670: GOTO 630
650 DEFFN '255: GOSUB '248(3, 0, -1): PRINT HEX(07); "RE-ENTER": RET
URN
660 GOSUB 710: PRINT HEX(010A); STR(Q6$, 1); TAB(80)
670 GOSUB 710: PRINT HEX(010A0A); TAB(80); HEX(010A0A): GOSUB '24
2(00+2, "-")
680 PRINT HEX(010A0A)
690 KEYIN Q6$, 690, 690: RETURN
700 PRINT HEX(0A); TAB(80)
710 SELECT PRINT 005, CO 005: RETURN
720 DEFFN '248(Q6, Q7, Q8): SELECT PRINT 005: IF Q8=0 THEN 740: IF A
BS(Q8)[ ] 9E99 THEN 730: PRINT HEX(03): GOTO 740
730 GOSUB 740: SELECT PRINT 205: PRINT TAB(72-8*SGN(Q8)-Q7): IF
ABS(Q8)[2 THEN 740: FOR W0=2 TO ABS(Q8): PRINT HEX(0A); TAB(72-8*
SGN(Q8)): NEXT W0
740 PRINT HEX(01): GOSUB '242(Q7, HEX(09)): GOSUB '242(Q6, HEX(0A
)): SELECT PRINT 005: RETURN
750 INIT(" ") A$( )
760 STOP
770 DEFFN '50(Q6$)
780 FOR J=1 TO 3: IF STR(Q6$, J, 1)[ ] "0" THEN 790: STR(Q6$, J, 1)=" "
: NEXT J

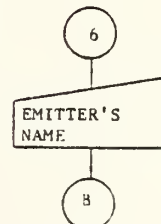
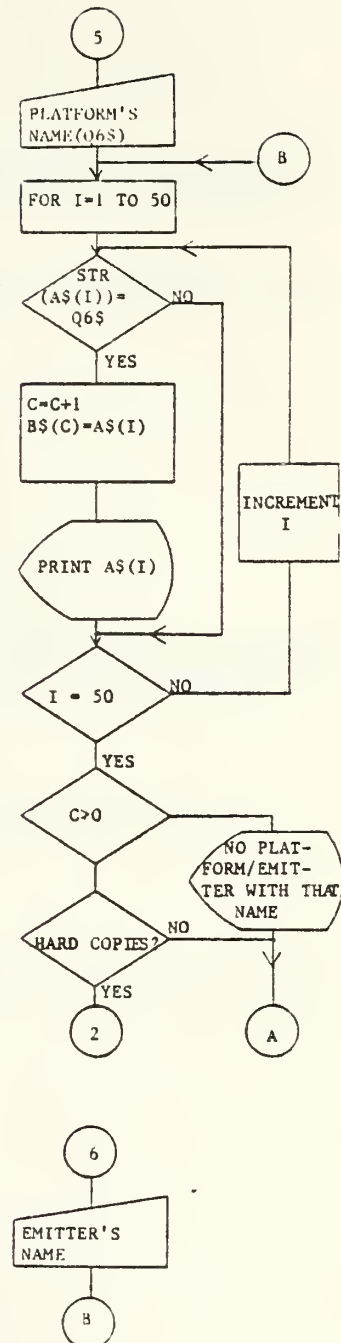
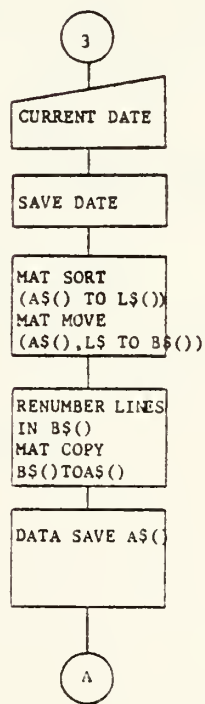
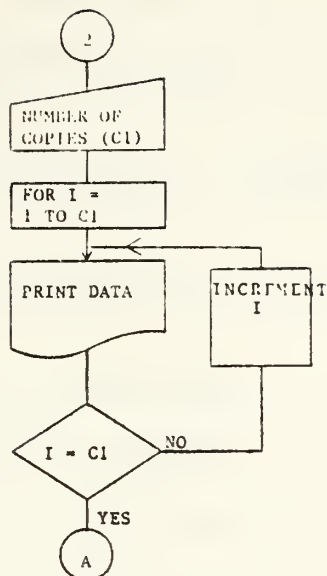
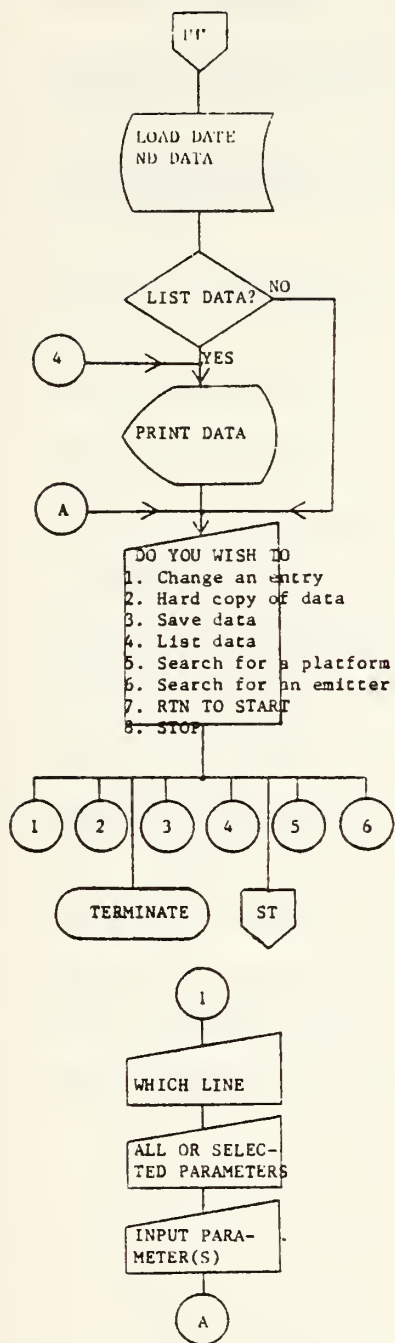
```



```

790 RETURN
800 INIT(" ")A$( ):INIT(" ")C$( )
810 DATA SAVE DC OPEN F3,"DATE":DATA SAVE DC C$( )
820 DATA SAVE DC OPEN F50,"HUL":DATA SAVE DC A$( )
830 GOTO 130
840 PRINT HEX(03):GOSUB '243("INPUT EMITTER'S NAME",6):PRINT
HEX(03)
850 PRINT USING 310
860 FOR I=1 TO 50:IF STR(A$(I),51,6)[ ]Q6$ THEN 880:PRINT A$(I)
870 C=C+1:B$(C)=A$(I)
880 NEXT I:IF C=0 THEN 930
890 PRINT HEX(0A0A):INPUT "HARD COPY DESIRED (Y OR N)",DS:IF
DS="N" THEN 130
900 INPUT "HOW MANY COPIES",C1:SELECT PRINT 215
910 FOR I=1 TO C1:PRINT USING 310:FOR J=1 TO C: PRINT B$(J):NEX
T J:PRINT HEX(0A0A0A0A):NEXT I
920 SELECT PRINT 005:GOTO 130
930 PRINT "NO EMITTERS WITH THAT NAME":PRINT HEX(0A0A):COTO
130
940 LOAD DC F"START"

```

HULTEC

C COUNTER FOR MATCHES MADE WHEN SEARCHING FOR PARTICULAR
 PLATFORMS OR EMITTER.

D INPUT VARIABLE FOR DEPRESS EXEC TO CONT.

E INPUT VARIABLE FOR OPERATOR'S SELECTION OF WHAT HE
 WISHES TO DO WITH DATA. E=1TO8

F INPUT VARIABLE FOR SELECTION OF WHETHER ALL OR SELECTED
 PARAMETERS ARE TO BE CHANGED. F=1 FOR ALL, F=2 FOR
 SELECTED.

G INPUT VARIABLE FOR SELECTION OF WHICH PARAMETER IS TO
 CHANGED. G=1TO10.

I INDEX VARIABLE IN FOR TO ROUTINE

J INDEX VARIABLE IF FOR TO ROUTINE

CL NUMBER OF COPIES THAT ARE TO BE MADE

A\$ RECEIVER ARRAY FOR DATA LOAD AND MATCOPY

B\$ RECEIVER ARRAY FOR MAT MOVE. BUFFER ARRAY FOR MATCHES
 MADE IN SEARCH FOR A PARTICULAR PLATFORM OR EMITTER.

C\$ RECEIVER ARRAY FOR DATE.

D\$ INPUT VARIABLE (Y OR N) FOR 'WISH TO LOOK AT DATA'
 AND 'HARDCOPY DESIRED'.

L\$ LOCATION ARRAY FOR MAT SORT

Q6\$ INPUT VARIABLE FOR ENTRY OF PARAMETERS, PLATFORM NAME,
 AND EMITTER NAME.

W\$ WORK ARRAY FOR MAT SORT.

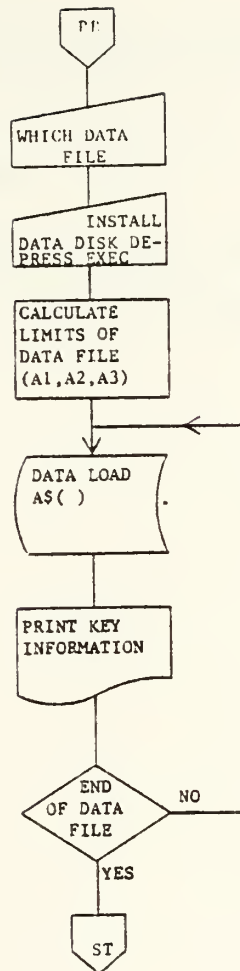
PRINT

```

10 REM DEVELOPED BY LT S.W.SMITH,USN 2/12/79
20 REM PGM TO PRINT A LISTING OF THE DATA FILE
30 DIM A$(4)62
40 PRINT HEX(03)
50 PRINT "WHICH FILE DO YOU WANT TO PRINT":PRINT TAB(10);"1.
EPL":PRINT TAB(10);"2.MOBILE PLATFORMS":PRINT TAB(10);"3.LAN
D EOB":INPUT D
60 ON D GOTO 70,200,230
70 INPUT "INSTALL EPL DISK IN DRIVE 2,DEPRESS EXEC TO CONT",
G
80 LIMITS R "EPL1F1",A1,A2,A3
90 S=A1
100 SELECT PRINT 215
110 PRINT "ELINT MC NAME FC NTDS" COMMENTS"
120 FOR I=1 TO (A3-2)
130 DATA LOAD DA R (S,S) A$( )
140 FOR K=1 TO 4
150 IF STR(A$(K),7,2)[ ] " 0" THEN 170
160 PRINT A$(K)
170 NEXT K
180 NEXT I
190 GOTO 330
200 INPUT "INSTALL MOBILE PLATFORM DISK IN DRIVE 2,DEPRESS E
XEC TO CONT",G
210 LIMITS R"EOB1F1",A1,A2,A3
220 S=A1:SELECT PRINT 215:PRINT "NAME CC":GOTO 260

230 INPUT "INSTALL LAND EOB DISK IN DRIVE 2. DEPRESS EXEC TO
CONTINUE",G
240 LIMITS R"EOB2F1",A1,A2,A3
250 S=A1:SELECT PRINT 215:PRINT "LAT/LONG CC"
260 FOR I=1 TO (A3-2)
270 DATA LOAD DA R (S,S)A$( )
280 FOR K=1 TO 4
290 IF STR(A$(K),20,1)]="2"THEN 310
300 PRINT STR(A$(K),2,17)
310 NEXT K
320 NEXT I
330 SELECT PRINT 005:LOAD DC F"START"

```

PRINT

D DATA FILE SELECTION VARIABLE
G CONTINUATION VARIABLE
I FOR TO INDEX VARIABLE
K INDEX VARIABLE
S RECEIVING VARIABLE FOR SECTOR NUMBER AFTER DA LOAD
A1 FIRST SECTOR ADDRESS IN DATA FILE
A2 ENDING SECTOR ADDRESS
A3 NUMBER OF SECTORS USED IN DATA FILE
A\$ RECEIVING ARRAY FOR DATA LOAD COMMANDS.

LIST OF REFERENCES

1. Naval Electronic Engineering Office Damneck, Command Presentation, 1978.
2. Beaudet, C. A., EA-6B Mission Planning Program, Master's Thesis, Naval Postgraduate School, 1977.
3. Watts, K. D., Electronic Warfare Support Jamming Pre-Mission Route Optimization, Master's Thesis, Naval Postgraduate School, 1977.
4. Odell, P Jr., EA-6B Mission Planning and Route Optimization Program, Master's Thesis, Naval Postgraduate School, 1978.
5. Wang Laboratories, Inc., Integrated Support System User Manual Release 2, 1976.
6. Wang Laboratories, Inc., System 2200 Disk Memory Reference Manual, 1974.
7. Wang Laboratories, Inc., Programming in Basic, 1976.

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